

November 26, 1956

How "Convert-A-Floor" Works . . . p. 30

RAILWAY AGE

THE INDUSTRY'S WEEKLY NEWS MAGAZINE



WROUGHT IRON PIPE safeguards Air Brake Systems on 500 Railway Express Agency Refrigerator Rail Cars

When you transport perishables, "time out" for emergency repairs and replacement on carrier equipment can represent a costly loss. Guarding against this threat was a high priority objective of Railway Express Agency, Inc., when they designed their new refrigerator rail cars. One example of the Agency's insistence on equipment durability is the use of wrought iron pipe for the air brake systems on the new "fleet." More than 65 tons of this time-tested material was installed for this service.

These new cars, built by the General

American Transportation Corporation, East Chicago, Illinois, are equipped to operate at passenger train speeds up to 100 M.P.H. This express service will help maintain vital time-table deliveries of fresh fruits, vegetables, seafoods and many other perishable items from producing areas to the nation's markets.

Wrought iron is ideally suited for air brake service. It takes short-radius bends. Its freedom from "spring-back" makes it easy to fabricate, simplifies fittings, and eliminates stored strains that are destructive to pipe life and

connecting equipment. Wrought iron withstands vibration and shock, and its ability to resist corrosion is a matter of engineering record.

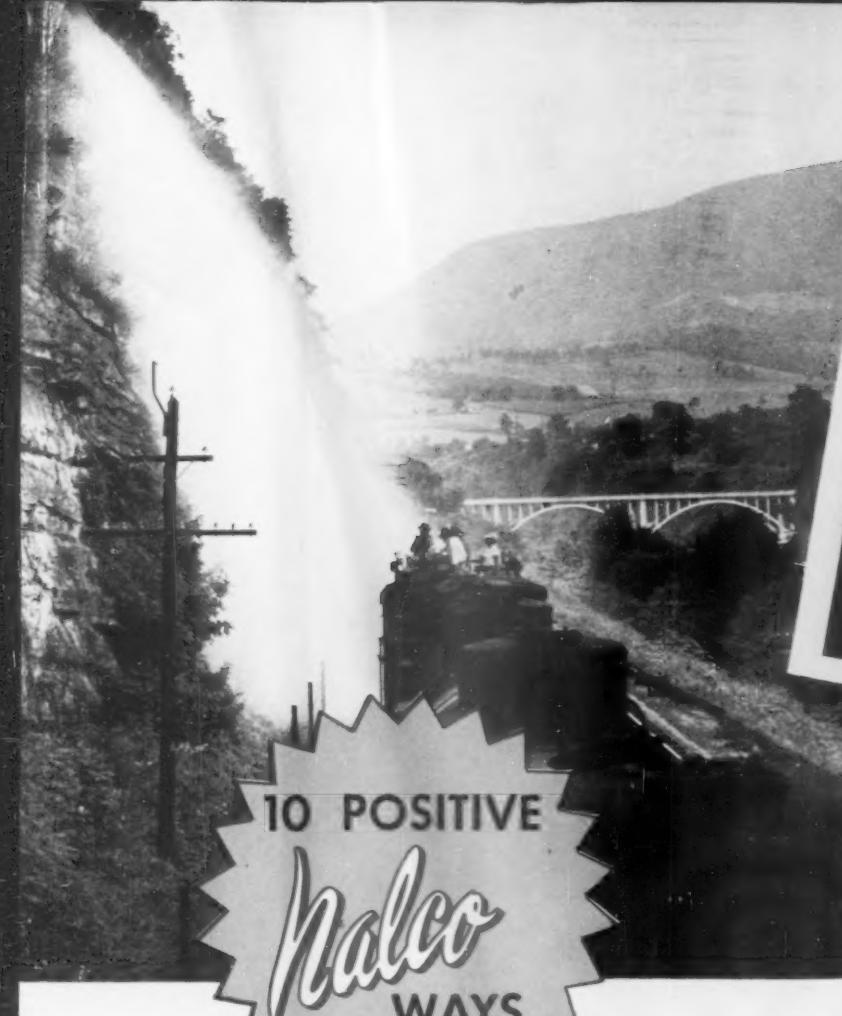
Our Special Report, *The Use of Wrought Iron for Air Brake Piping*, gives complete details. Write for your copy.

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ALSO ELECTRIC FURNACE QUALITY STEEL PRODUCTS

**10 POSITIVE
Nalco
WAYS**



Nalco Spray Cars give precise dosage and coverage. Available without charge to users of tank car lots of Nalco Chemicals.

for ALL-SEASON WEED and BRUSH CONTROL

Whatever your particular weed, grass or brush control problem — Nalco has the safe, sure answer in this complete selection of proved chemical treatments . . . *10 in all*.

Nalco also assures the most *economical* application possible . . . with mechanical spreaders and shaker boxes for small and hard-to-reach areas . . . with various sized drums, and tank car lots for use in modern Nalco Spray Cars.

Right now is the time to start your full-season weed control program with Nalco Chemicals. Ask for full facts on scheduling and prices.

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SPRAY SERVICES DEPARTMENT
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| CHEMICAL | DOSAGE | APPLICATION | SHIPPED |
|---|--|---|--------------------------------------|
| 1 Nalco H-170 Weed Control | One gal. per 1000 sq. ft. | After predominant weeds emerge. | Tank cars and 54 gal. drums. |
| 2 Nalco H-170B Weed and Grass Control | One gallon per 4500 sq. ft., with one gal. H-170 per 1500 sq. ft. | After predominant grasses emerge. Use in combination with Nalco H-170. | Tank cars. |
| 3 Nalco H-174 Weed and Grass Control | 200 to 400 lbs. per acre. | Best applied in early spring or just before rainy season. | 50 lb. bags and 3½ lb. shaker boxes. |
| 4 Nalco H-175 Dormant Brush Control | Dilute 10 gal. with 90 gal. diesel oil, etc. Use 25 to 40 gal. per acre. | Thoroughly wet basal area of plant. | 54 gal. drums. |
| 5 Nalco H-176 Brush Control | Dilute one gal. to 135 gal. of water. Use 100 to 200 gal. per acre. | Thoroughly wet brush after leaves are out. | Tank cars and 55 gal. drums. |
| 6 Nalco Dalapon (liquid) Weed and Grass Control | Dilute 10 gal. with 90 gal. of water. Apply 100 gal. per acre. | After predominant grasses emerge. Use in combination with Nalco 2, 4-D. | Special 8000 gallon tank cars. |
| 7 Nalco 2, 4-D Alkanolamine Weed Control | Dilute up to 3 gal. with 100 gal. dilute pen solution per acre. | After predominant weeds emerge. | Tank cars and 55 gal. drums. |
| 8 Ammono (liquid) Brush Control | Use 100-300 gal. per acre of dilute solution containing 14 lb. per gal. | Thoroughly wet brush after leaves are out. | Tank cars. |
| 9 Penta and Oil Weed Control | Dilute 30 gal. with 170 gal. water per acre. | After predominant weeds and grasses emerge. | Tank cars. |
| 10 2, 4, 5-T (liquid) Brush Control | Dilute 1 gal. to 135 gal. of water. Use 130-300 gal. per acre. | Thoroughly wet brush after leaves are fully grown. | 55 gal. drums. |

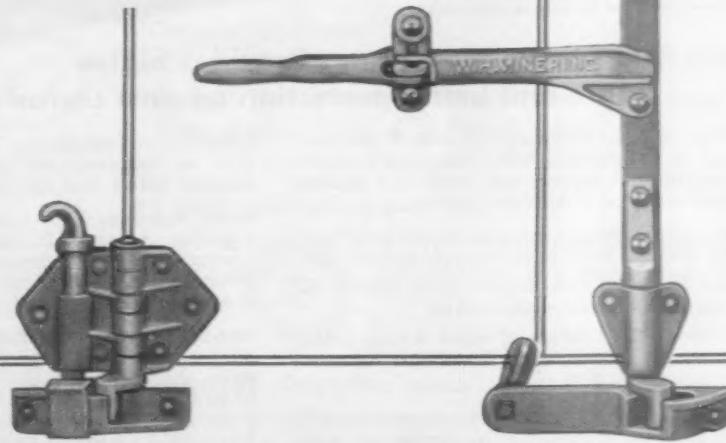
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MINER

3-WAY DOOR OPERATOR
for
Refrigerator Cars

1. Open single door for inspection of perishable commodities
or
2. Open first and second doors for usual refrigerator car servicing
or
3. Open all three doors to provide opening up to 7 feet in width to accommodate mechanical loading equipment.



All doors are substantially supported. No tracks or floating fixtures to be serviced. All insulation tightly sealed by door keepers and hinges. Inside faces of all doors may be cleaned from loading platform with doors in opened position.

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**Now 2 coats do the work of 3
on B. & O.'s New Covered Hopper Cars**

with Pittsburgh's

HOT-SPRAY

ALKALI- AND ACID-RESISTANT VINYL

CARHIDE®

One of the fleet of new covered hopper cars built by the Pullman-Standard Car Mfg. Company for the Baltimore & Ohio Railroad, finished with Pittsburgh's Hot-Spray Alkali- and Acid-Resistant Vinyl CARHIDE.

Puts cars into service quickly . . . Provides higher gloss and better protection against corrosive ladings

Better three ways, Pittsburgh's new Hot-Spray Alkali- and Acid-Resistant Vinyl CARHIDE protects covered hopper, refrigerator and tank cars against the destructive action of corrosive ladings.

1. One coat of primer and one coat of hot AAR Vinyl CARHIDE does the work of three coats applied cold.
2. Provides tougher finish, higher gloss, better appearance—longer lasting protection.
3. Is not affected by cargos of most strong acids, alkalis, soda ash, sulphur, phosphates, cement, lime, crude oil or alcohol.

With Hot-Spray AAR CARHIDE, heat is used instead of thinner to control viscosity in periods of wide

temperature variations. This new type of coating goes on uniformly and smoothly. It dries quickly, adheres better and reduces painting costs.

Many railroads have used Pittsburgh's AAR Vinyl CARHIDE because it affords unusual protection against mechanical damage and the effects of temperature and weather extremes. Now they can have the added advantages of Hot-Spray AAR CARHIDE.

Hot-Spray AAR Vinyl CARHIDE is applied with less air pressure. This reduces the amount of "fog" in paint shops and deposits a much higher percentage of paint on the surface. For further details contact Pittsburgh Plate Glass Company, Industrial Finishes Division, 1 Gateway Center, Pittsburgh, Pa.



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Workbook of the Railways

Vol. 141, No. 23
November 26, 1956

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The NIT League will support railroads . . .

. . . in their pending request for an emergency freight rate increase of about 7%. The league, however, will oppose any attempt to have the ICC approve a "permanent" increase of 15% without "orderly procedure" to "develop the facts as to what increases may be necessary." . . . p.7

"Fairness" to all parties concerned . . .

. . . is the basis for the ICC's handling of the Ex Parte 206 freight rate case, the commission said in a defense of the procedures it adopted. . . . p.10

FORUM: Traffic growth isn't automatic . . .

. . . although there is convincing agreement among forecasters as to its probability over the next decade. It isn't certain because the railroads' ability to price their services realistically, and to finance more equipment and facilities, isn't beyond doubt. The railroads themselves can do a lot to remove that doubt. . . . p.29

"Convert-A-Frate" . . .

. . . is the Rock Island's name for its concept of piggyback operation. Lightweight demountable car bodies of various types fit on a short 2-wheel-truck flat car. . . . p.30

Agreed charges work . . .

. . . in Canada. How they work, and why railroads and shippers like them, are brought out in a comprehensive question-and-answer report. . . . p.33

The grade stays the same . . .

. . . in a fully mechanized track reconditioning technique recently demonstrated on the Erie. . . . p.37

Piggyback cars are in production . . .

. . . for the New Haven, using the designs of Piggy-Back, Inc. This end-loading car has twin center sills but no floor, and has a high ratio of load to tare weight. . . . p.38



Why rail freight service is better than ever today

ONE REASON IS MECHANIZED TRACK MAINTENANCE. The picturesque "gandy-dancer" with his pick and shovel has given way to amazing machines that automatically jack up rails, replace ties, drive spikes, clean and tamp ballast. Today's better tracks help heavier trains carry more freight faster and smoother.



Watch "WIDE WIDE WORLD"
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ONE MORE BIG REASON IS HYATT Hy-ROLL BEARINGS for non-stop freight. HYATT Hy-Rolls eliminate delays for bearing inspection or lubrication because there's a 3-year lubricant supply sealed in. HYATTS have husky *straight cylindrical rollers* with extra load-carrying capacity for extra reliability, so freight cars can safely deliver the goods on speedier schedules, unhampered by costly hotboxes. That's why 27 leading lines have already adopted the HYATT Hy-Roll as a key part of their progressive modernization programs—to benefit all America with faster, more dependable freight service. Hyatt Bearings Division of General Motors, Harrison, New Jersey.

Another  contribution to railroad prosperity

HYATT **Hy-ROLL BEARINGS**
FOR NON-STOP FREIGHT

Current Statistics

| | |
|---|-----------------|
| Operating revenues, nine months | |
| 1956 | \$7,829,083,355 |
| 1955 | 7,466,749,844 |
| Operating expenses, nine months | |
| 1956 | \$6,032,499,606 |
| 1955 | 5,619,486,124 |
| Taxes nine months | |
| 1956 | \$831,812,299 |
| 1955 | 820,788,381 |
| Net railway operating income, nine months | |
| 1956 | \$773,057,071 |
| 1955 | 836,306,002 |
| Net income, estimated, nine months | |
| 1956 | \$607,000,000 |
| 1955 | 658,000,000 |
| Average price 20 railroad stocks | |
| November 19, 1956 | 94.88 |
| November 21, 1955 | 95.68 |
| Carloadings revenue freight | |
| Forty-five weeks, 1956 | 33,034,679 |
| Forty-five weeks, 1955 | 32,805,538 |
| Average daily freight car surplus | |
| Wk. ended Nov. 10, 1956 | 2,843 |
| Wk. ended Nov. 12, 1955 | 2,755 |
| Average daily freight car shortage | |
| Wk. ended Nov. 10, 1956 | 8,967 |
| Wk. ended Nov. 12, 1955 | 17,862 |
| Freight cars on order | |
| November 1, 1956 | 122,250 |
| November 1, 1955 | 61,964 |
| Freight cars delivered | |
| Ten months, 1956 | 53,563 |
| Ten months, 1955 | 29,673 |
| Average number railroad employees | |
| Mid-October 1956 | 1,041,456 |
| Mid-October 1955 | 1,086,858 |

RAILWAY AGE IS A MEMBER OF ASSOCIATED BUSINESS PUBLICATIONS (A.B.P.) AND AUDIT BUREAU OF CIRCULATION (A. B. C.) AND IS INDEXED BY THE INDUSTRIAL ARTS INDEX, THE ENGINEERING INDEX SERVICE AND THE PUBLIC AFFAIRS INFORMATION SERVICE. RAILWAY AGE, ESTABLISHED IN 1856, INCORPORATES THE RAILWAY REVIEW, THE RAILROAD GAZETTE, AND THE RAILWAY AGE GAZETTE. NAME REGISTERED IN U. S. PATENT OFFICE AND TRADE MARK OFFICE IN CANADA.

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Week at a Glance CONTINUED**Extra steam for passenger switching . . .**

. . . is provided in 1,200-hp units designed for the Santa Fe by Fairbanks-Morse. . . . p.40

B R I E F S**Another lightweight car . . .**

. . . design has been shown to several railroads by Pullman-Standard. The basic light-weight, low-slung, conventional-length, design has two four-wheel trucks. It could be adapted as a coach, sleeper, commuter coach, multiple-unit electric car, or self-propelled diesel car.

"Excessive preoccupation . . .

. . . with a sense of injury, to the neglect of immediate factors within their control," is one thing Chairman Arpaia of the ICC thinks has had a "pointless and distressing influence on the railroads." His advice to them is that "one doesn't move forward preaching gloom, and pessimism is hardly the way to inspire confidence."

Eight-months capital expenditures . . .

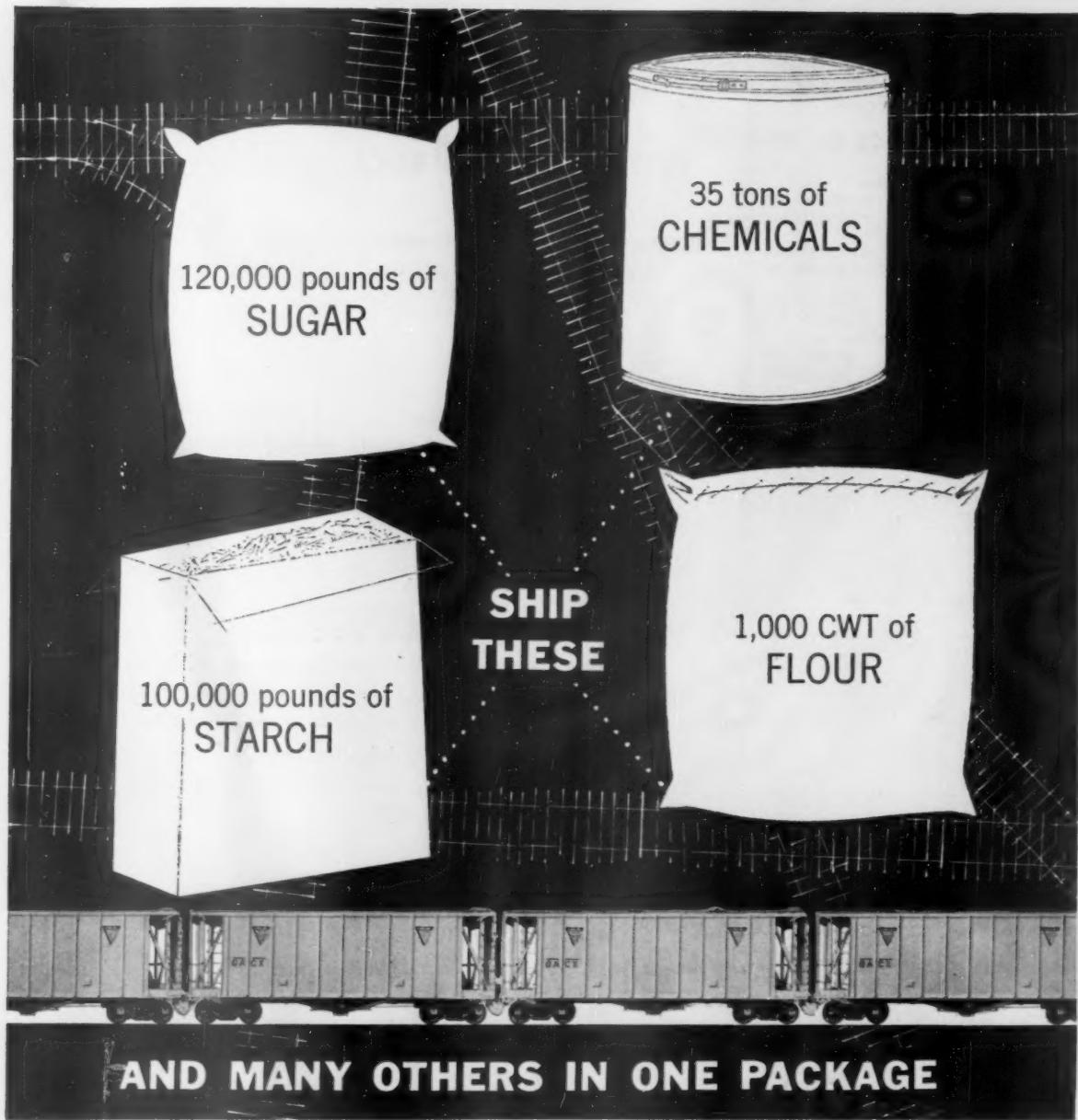
. . . of Class I railroads totaled \$829.3 million, up 60.9% from the \$515.5 million reported for the first eight months of 1955. Outlays for equipment, at \$581.6 million, were up 75.2%, and expenditures for "road," at \$247.7 million, were up 35%.

Permanently-coupled 38-ft flat cars . . .

. . . may go into piggyback service. Two-car units are being tested on the Pennsylvania for Trailer Train Company, which plans to buy up to 150 if tests are successful. The linked cars are Adapto units, built by ACF Industries.

Freight-rate cutting . . .

. . . was continued by the railroads in 1955. That's the showing of indexes computed by the ICC's Bureau of Transport Economics and Statistics. On the basis of 1950 rates as 100, last year's all-commodities index, at 108, was down one point from 1954's 109. There was a drop of two points, to 108, in the index of the manufactures and miscellaneous group, and of one point each in the agriculture and mines groups, which were down to 109 and 107, respectively. Animals and forest groups remained unchanged at 112 and 113.



Save! Ship in Bulk via Airslide® Cars

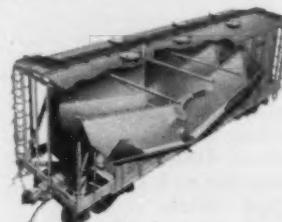
The Airslide Car is designed and built for materials never before successfully shipped in conventional covered hopper cars. The Airslide Car has been proved by more than 3 years of continuous use in all climatic conditions all over the country.

Over 2000 Airslide Cars are now in use or on

order. They require no re-spotting, provide far more clearance for unloading and can be unloaded into any conveying system as fast as the system permits. If such requirements are important to you, write today for full information about General American's new Airslide Car.

CLEAN INTERIOR DESIGN—All-welded construction—no interior carlines or other protuberances. Provides maximum sanitation and minimum product retention. All loading hatches and discharge outlets provide a hermetic seal.

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NIT League OK's 'Quickie' Increase

Shippers will accept higher rates to 'keep railroads alive' by offsetting increased costs, but will oppose any 'modified procedure' on 15% increase

Railroads can count on support from the National Industrial Traffic League in their pending request for a "necessary" emergency rate increase of approximately 7%. They must expect league opposition, however, in their efforts to have the Interstate Commerce Commission approve a so-called permanent increase of 15% without "orderly procedure" to "develop the facts as to what increase may be necessary."

This definition of the league's official policies in the Ex Parte 206 rate increase case, plus some clarifying changes in the league's standing policies, were the principal results, from the railroad standpoint, of the organization's 49th annual convention in New York, November 15 and 16.

As explained at the meeting by John S. Burchmore, attorney for the league, the group's position on Ex Parte 206 comes down essentially to "trading off approval of fast action on some emergency increase in return for full investigation of the larger permanent increase." As another league official informally put

it to a Railway Age reporter: "We want to keep railroads alive by giving them enough money to meet the cost increases we know they have incurred. But we also want to make sure they are following the example of other industries in operating with maximum efficiency and economy. Otherwise, these constant and cumulative rate increases are going to force more and more of our members into private transportation."

Various changes in the league's standing policies, approved at the meeting, were based on the report of its Special Committee on Transportation Outlook and Policy, headed by A. H. Schwietert, director of transportation of the Chicago Association of Commerce & Industry.

One of the two major changes was to give league officers and committees greater freedom to approve legislation which may come before Congress, with particular reference to possible changes in the so-called rule of rate making.

Specifically, officers and committees would be empowered to "initiate or support" legislation designed

to accomplish the purpose of the "three shall nots" in the Cabinet Committee Report, even though the wording of such legislation may not accord exactly with the precise language used by the Cabinet Committee or approved by the league at its 1955 convention.

The other major change would put the league on record as approving prescription by the ICC of specific rates in cases where such rates are necessary to comply with the commission's findings.

Such precise rates would be fixed, according to the committee's report, only in "unusual cases where that is the only way in which justice can be done." They would not alter the general policy adopted by the league last year in opposition to ICC allocation of traffic on the so-called "fair share" theory, or on any other basis. Neither would they alter the league's support for a change in the rate-making rule, or for limiting the commission's power, generally to prescribe maximum and minimum rates.

Other league action affecting railroad service involved adoption of the following committee recommendations:

On LCL service—Reaffirmed earlier opposition to any arbitrary charge over and above regular tariff rates on any LCL shipments.

Recommended that the LCL Committee of the Association of American Railroads, "or similar influential groups" be urged to give "special consideration to the six- or seven-day operation of transfer stations per week."

On refrigerator cars—Recommended that the need for larger doors, and sliding doors, in construction of refrigerator cars, to permit use of fork-lift trucks, be brought to the attention of appropriate AAR officials.

On war reparations—Recommend-



NIT LEAGUE OFFICERS include, in the usual order, Lester J. Dorr, executive secretary; William H. Ott, vice-president; Grant Arnold, president; and Lowe P. Siddons, retiring presi-

dent. E. W. Girton, chairman of the executive committee, and Robert McGuire, treasurer, were not present at the time when this photograph was taken.

ed discharge of its Special Committee on War Reparations, on ground of "mission accomplished."

Reparations — Recommended "prompt amendment of the Interstate Commerce Act so as to provide in Parts II and IV provisions with respect to reparation substantially similar to the present provisions of Part I on that subject."

Motor carrier service — Recommended intervention before the U.S. Supreme Court in the case of *Schaefer Transportation Company & American Trucking Associations vs. ICC*, involving denial of a motor carrier certificate on the ground that available rail service is adequate. This intervention is based on the league's feeling that "shippers should not be denied truck service just because railroad service exists." Conversely, as in another case involving trucking rights for a highway subsidiary of the Chicago, Rock Island & Pacific, the league feels that "shippers should not be denied railroad-provided truck service just because other truck service exists."

Grant Arnold, general traffic manager of E. J. Lavino & Co., Philadelphia, was elected president of the league, to succeed Lowe P. Siddons, traffic manager of the Holly Sugar Corporation at Colorado Springs. William H. Ott, general traffic man-

NATIONAL INDUSTRIAL TRAFFIC LEAGUE'S OFFICIAL POSITION ON EX PARTE 206

"(1) That in harmony with its long established policies in railroad revenue matters the league shall participate in the hearings and argument on the emergency 7% proposal to the extent of urging immediate authorization of such general interim increase (except in the minimum per shipment charge) as is necessary to meet increases in wages, materials and like costs incurred since the Ex Parte 196 action and insist upon an orderly procedure on the question of so-called permanent increase with adequate time for preparation and presentation of evidence of all interested parties.

"(2) That the league actively participate in the permanent phase of Ex Parte 206 in broad opposition to the general increases as proposed; that it develop as far as possible the facts as to what increases may be necessary and whether improvement of earnings cannot be achieved by greater efficiency of management and by operating economies; and that the league's participation consider the ef-

fect of increased charges on the movement of rail traffic and all aspects of the problem under the rate-making rule.

"(3) That insofar as Ex Parte 206 may involve proposed increases in rates of transportation agencies other than railroads, the league's participation shall be with the further object of making such other agencies prove fully their need for any measure of rate increases, rather than receive, more or less as a matter of course, the same measure of increase as may be granted the rail lines.

"(4) If the league authorizes participation in the proceedings, that a strong special committee be appointed to handle the subject."

[This committee will be headed by Eugene Landis, general traffic manager of the International Minerals & Chemical Corp., Chicago. Other members are Charles H. Beard, J. M. Cody, Charles T. Coy, P. Steele Labagh, Frank A. Leffingwell, Lowe P. Siddons and Paul P. Watkins.]

ager of Kraft Foods Company, Chicago, was elected vice-president, and Evan W. Girton, general traffic manager of Wilson & Co., Chicago, becomes chairman of the executive committee. Lester J. Dorr continues as executive secretary, while Robert

Maguire, manager of the traffic division of the Atlantic Refining Company, at Philadelphia, was re-elected treasurer.

The following regional vice-presidents were also chosen by the league: J. D. Dawson, Worcester, Mass., New England region; H. H. Huston, New York, Trunk Line region; L. A. Pomeroy, Cleveland, Central Freight region; N. B. Correll, Winston-Salem, N.C., Southeastern region; A. M. Cloninger, Longview, Wash., Pacific Coast region; Frank L. DeGroat, Milwaukee, Western Trunk Line region; Charles Liggett, St. Paul, Northwestern region; and Paul N. Haskell, Houston, Southwestern region.

The league's 1957 convention, which will be a special three-day meeting in honor of its 50th anniversary, will be held at the Morrison Hotel, Chicago, November 13-15. The 1958 meeting, on November 20-21, will return to the Commodore Hotel in New York, while the 1959 meeting has been tentatively scheduled for Denver, Colo. Mr. Schwietert and R. V. Craig, general traffic manager, Allied Mills, Chicago, were named as co-chairmen of a special committee for next year's semi-centennial convention.

The NIT League's presentation to the ICC on the rate boosts is reported on page 10.



Earth Movers Carve Out New NC&StL-L&N Yard

Leveling hills and filling valleys is the first step in the construction of a big and modern classification yard for the Nashville, Chattanooga & St. Louis and Louisville & Nashville at Atlanta.

Above looks north from atop a 115-ft cut, just above the proposed location of the yard office. The 2,500-car capacity yard, to be used jointly by the two roads will cost \$6 million.

MARKET OUTLOOK THIS WEEK

Freight Car Loadings

Loadings of revenue freight for the week ended November 17 were not available as this issue of Railway Age went to press.

Loadings of revenue freight for the week ended November 10 totaled 772,761 cars; the summary compiled by the Car Service Division, AAR, follows:

| REVENUE FREIGHT CAR LOADINGS | | | |
|------------------------------|--|------------|------------|
| | For the week ended Saturday, November 10 | 1956 | 1955 |
| District | | 1956 | 1955 |
| Eastern | 125,933 | 126,804 | 116,928 |
| Alleghany | 150,612 | 149,534 | 125,501 |
| Pocahontas | 62,411 | 60,970 | 54,108 |
| Southern | 126,820 | 133,170 | 127,095 |
| Northwestern | 119,023 | 122,615 | 95,774 |
| Central Western | 132,387 | 138,143 | 130,099 |
| Southwestern | 55,575 | 60,806 | 59,244 |
| Total Western Districts | 306,985 | 321,564 | 285,117 |
| Total All Roads | 772,761 | 792,042 | 708,749 |
| Commodities: | | | |
| Grain and grain products | 52,463 | 56,098 | 61,141 |
| Livestock | 11,231 | 13,704 | 12,454 |
| Coal | 145,045 | 138,500 | 130,965 |
| Coke | 12,461 | 12,967 | 9,078 |
| Forest Products | 42,829 | 44,515 | 44,572 |
| Ore | 71,467 | 67,871 | 31,377 |
| Merchandise l.c.l. | 60,228 | 64,290 | 63,623 |
| Miscellaneous | 377,037 | 394,097 | 355,539 |
| November 10 | 772,761 | 792,042 | 708,749 |
| November 3 | 800,272 | 804,261 | 696,026 |
| October 27 | 816,803 | 829,648 | 736,233 |
| October 20 | 828,741 | 829,078 | 745,945 |
| October 13 | 823,207 | 821,578 | 721,336 |
| Cumulative total: | | | |
| 45 weeks | 33,034,679 | 32,805,538 | 29,586,319 |

IN CANADA.—Carloadings for the seven-day period ended November 7 totaled 91,157 cars, compared with 141,718 cars for the previous 10-day period, according to the Dominion Bureau of Statistics.

| | Revenue Cars | Total Cars Rec'd from Loaded | Connections |
|---------------------------|--------------|------------------------------|-------------|
| Totals for Canada: | | | |
| November 7, 1956 | 91,157 | 33,911 | |
| November 7, 1955 | 86,216 | 33,824 | |
| Cumulative Totals: | | | |
| November 7, 1956 | 3,815,188 | 1,489,174 | |
| November 7, 1955 | 3,481,227 | 1,398,453 | |

New Equipment

FREIGHT-TRAIN CARS

► **October Orders and Deliveries Up.**—New freight cars delivered in October totaled 5,666, compared with 3,444 in September and 3,772 in October 1955, AAR and ARCI report; October figure reflected increased deliveries of steel and marked seventh time in past eight months that deliveries exceeded 5,000 cars; new freight cars ordered in October totaled 6,532, compared with 3,949 in September and 12,843 in October 1955; November 1 backlog was 122,250, compared with 122,421 on October 1 and 61,964 on November 1, 1955.

| Type | Ordered Nov. '56 | Delivered Nov. '56 | On Order Nov. 1, '56 |
|----------------|------------------|--------------------|----------------------|
| Box—Plain | 2,001 | 2,095 | 39,787 |
| Box—Auto | 0 | 0 | 1,900 |
| Flat | 0 | 487 | 4,184 |
| Gondola | 1,853 | 507 | 13,601 |
| Hopper | 900 | 1,173 | 39,199 |
| Covered Hopper | 720 | 438 | 7,493 |
| Refrigerator | 50 | 250 | 5,404 |
| Stock | 0 | 0 | 0 |
| Tank | 438 | 592 | 7,437 |
| Caboose | 0 | 19 | 105 |
| Other | 570 | 105 | 3,140 |
| TOTAL | 6,532 | 5,666 | 122,250 |
| Car Builders | 4,411 | 3,728 | 61,159 |
| Company Shops | 2,121 | 1,938 | 61,091 |

► **Repair Ratio Trimmed 0.1%.**—Class I roads cut freight-car repair ratio from 4.5% in August (resulting from steel strike) to 4.4% on September 1, according to AAR report summarized below; total car fleet was 290 cars less than on September 1, 1955.

| | Sept. 1, 1956 | Sept. 1, 1955 | Change |
|-----------------|---------------|---------------|------------|
| Ownership* | 1,704,076 | 1,704,366 | 290 (d) |
| Waiting Repairs | 74,305 | 93,692 | 19,387 (d) |
| Repair Ratio | 4.4% | 5.5% | 1.1% (d) |

*Excludes railroad-owned private refrigerator cars.

► **Santa Fe.**—Ordered 950 50-ton box cars and 150 50-ton insulated box cars, Pullman-Standard.

PASSENGER-TRAIN CARS

► **Chicago & North Western.**—Is considering purchase of two lightweight, low-center-of-gravity units similar to "Train X" equipment, which, it is tentatively planned, would operate between Chicago and Green Bay, Wis. (Railway Age, Oct. 29, p. 9).

LOCOMOTIVES

► **Diesel Fleet Up to 25,837 Units.**—Class I railroad diesel fleet continued to grow through month of August, totaling 25,837 on September 1, compared with 25,738 on August 1 and 24,418 on September 1, 1955; steam locomotive fleet was down to 4,343 on September 1, according to AAR report summarized below.

| | Owned or Leased September 1, 1956 | Stored September 1, 1956 | Serviceable September 1, 1956 | Waiting Shops September 1, 1956 |
|----------------------|-----------------------------------|--------------------------|-------------------------------|---------------------------------|
| Diesel (A & B Units) | 1956 | 1955 | 1955 | 1955 |
| Steam (Locomotives) | 25,837 | 24,418 | 41 | 12 |
| Electric (Units) | 4,343 | 6,681 | 518 | 902 |
| | 601 | 660 | 10 | 9 |
| | | | | 69 |
| | | | | 57 |

ICC Defends Rate Case Procedures

Procedures adopted for the Ex Parte 206 freight-rate case reflect the Interstate Commerce Commission's endeavor "to reconcile with fairness the interests of all parties concerned."

That's what the commission said in a November 16 statement which also announced that a hearing will be held December 12 at Washington, D. C., on the petition of southern roads for an immediate increase of 7%. The southern roads had asked that their petition be set for hearing November 26 at Kansas City, Mo., along with the similar plea filed earlier by eastern and western roads (*Railway Age*, Nov. 12, p. 7, and Nov. 19, p. 11).

Oral argument on the eastern-western plea was scheduled to be held, also at Kansas City, on December 3. The argument on the southern petition for the increase was sched-

uled for Washington December 19.

This 7% phase of the case involves the railroads' undertaking to obtain additional revenues to offset wage increases and other rises in costs, although the southern roads expect also to get funds to continue their capital improvement programs. The case also has its 15% phase wherein the eastern and western lines seek an additional increase in that amount to improve their rates of return.

Proceedings of the 15% phase have been modified by the commission to extend, from December 14 until December 24, the deadline for the filing of verified statements in opposition to the proposed increase. The deadline for filing verified reply statements has been extended from January 4, 1957, to January 14, 1957.

NIT League position—Mean-

while, the National Industrial Traffic League has followed through to advise the commission of the Ex Parte 206 position it adopted at its annual meeting, as reported elsewhere in this issue. Briefly, the league says the commission should grant immediately such "emergency" increase as may be found necessary, but go in for careful consideration of the 15% petition.

Procedures now scheduled for the latter, the league complains, "will be insufficient and inadequate to fulfill the spirit of the full hearing provisions of the statutes." It adds:

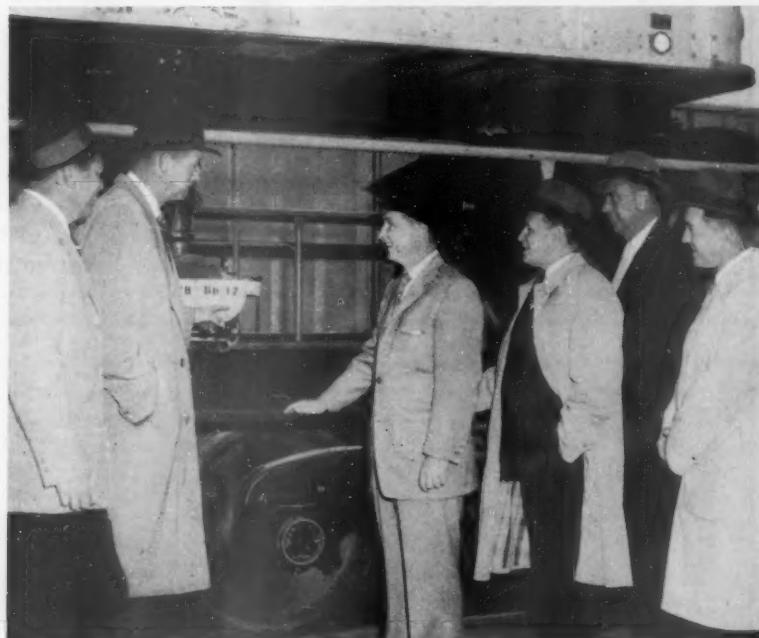
"Full oral hearings and quite possibly regional hearings will be essential if the public is to be heard. The league respectfully suggests the commission should not drive itself too hard, in the direction of assuming responsibility on the grave economic questions of railroad rights and public interest without the benefit of all the light which may be afforded under orderly procedures of full hearing."

The commission's defense of its procedures noted that parties opposing the 15% proposal will have had "almost three months in which to prepare their statements," and "approximately four months in which to prepare for cross-examination of carrier witnesses." The commission also said the convenience of parties is better served by the verified-statement procedure than would be the case under an oral-testimony plan.

The former "provides an easy and relatively inexpensive way for all interested parties to prepare and present testimony without having to travel long distances," the commission continued. This, it added, was demonstrated in the Ex Parte 196 case.

As to the 7% phase, the commission noted that it had denied the railroads' request for this "emergency" relief without hearing, and that it had refused to hear the southern plea at Kansas City this week "in order to give the parties adequate time."

"Altogether," the statement concluded, "the commission has provided for four hearings and three oral arguments on this matter. The investigation was instituted October



Piggyback Progress Story Told on TV

Railroad modernization is the theme of a series of filmed television commercials sponsored by Hyatt Bearings Division, General Motors Corporation, for presentation on "Wide, Wide World" programs. One such film features the New Haven's piggyback operation. Here video commentator John Cameron Swayze (third from left), is filled in on trailer-on-flat-car

techniques. In photo are (left to right) C. C. Wardell, advertising manager, Hyatt Bearings; Everett Cooper, manager of Cooper's Express; Mr. Swayze; Christopher Dumaine, Boston manager of the Piggy Back Service Corporation; Pierre Dumaine, president of Piggy Back Service; and Robert Bolinder, New Haven "Trailer" Service.

1, and will extend through February 11, 1957.

"The carriers have urged greater expedition for the reason that they claim that it is impossible to recoup losses incurred through increased costs which are already in effect. We feel that they are entitled to have a determination as speedily as practicable. On the other hand, shippers, state governments, and others are entitled to adequate time and due process. The commission has endeavored to reconcile with fairness the interests of all parties concerned."

Schedule—Attached to the statement was a schedule of the Ex Parte 206 proceedings as they now stand. From this week on, the schedule follows:

November 26: Hearing begins at Kansas City on motion of eastern and western railroads for 7% increase.

December 3: Oral argument begins at Kansas City on motion of eastern and western railroads for 7% increase.

December 12: Hearing begins at Washington on petition of southern railroads for 7% increase.

December 19: Oral argument begins at Washington on petition of southern railroads for 7% increase.

December 24: Due date for filing of verified statements in opposition to 15% increase proposed by eastern and western roads.

January 14: Due date for filing verified statements in reply to the December 24 filings.

January 24: Hearing begins at Washington for purpose of cross-examining persons filing verified statements.

February 4: Hearing begins at Salt Lake City, Utah, for purpose of cross-examining persons filing verified statements.

February 11: Oral argument begins at Washington and due date for memorandum briefs.

IT to Drop E. St. Louis Bus and Trolley Service

Illinois Terminal has announced plans to abandon its St. Louis-Ganite City, Ill., street car line and to sell its East St. Louis-Ganite City bus system to the American Transit Company of St. Louis.

The railroad will file an applica-



CPR Takes Three Top Canadian Safety Awards

Canadian Pacific's Angus Shops—winners of the 1955 Fire Prevention Week contest—recently were awarded three major Canadian honors in the field of fire prevention and protection. On hand for presentation ceremonies were, left to right: D. S. Thomson, CPR vice-president, holding the Lorraine Shield, given for the first time by

the province of Quebec; J. E. Belanger, deputy chief, Department of Investigation; J. Perrault, Angus fire chief and police inspector; and W. D. Dickie, Angus Shops work manager, holding the Dominion Fire Prevention Association shield. On the table is a third award—the library of fire protection standards.

tion with the Interstate Commerce Commission requesting permission to abandon the street car service. The trolley line lost \$155,000 in 1955 and the railroad expects this deficit to be even greater this year.

IT and American Transit are re-

ported close to agreement on sale of the railroad's local bus operation. IT discontinued its main line passenger service in March of this year, after the road's purchase by a group of 10 St. Louis railroads for \$20 million (Railway Age, Aug. 20, p. 29).

'Aerotrain' Offers Free Food

The Union Pacific has leased the nine-car, General Motors-built "Aerotrain" for six months beginning December 1 and will put it into daily shuttle service between Los Angeles and Las Vegas, Nev., on December 18.

Two cars of the originally all-coach "Aerotrain" have been converted in UP shops to a club lounge car and a buffet diner. Food on the

buffet car will be included in the price of the ticket, which will be at regular coach rates. There will be no limit on the amount of food a passenger may have without charge.

The buffet diner has been equipped with counters along each side. Food will be served at one counter by an attendant and eaten by passengers standing at the other counter. The club lounge car has been equipped



Honored Retirement After 30 Years' Service

Passing of a milestone in railroad history was commemorated November 5 when the General Steel Castings Corporation presented Locomotive No. 318 of the Terminal Railroad Association of St. Louis to the Museum of Transport in Kirkwood, Mo. The locomotive, retired after 30 years' service on the TRRA, was the first ever to be built on a Commonwealth one-piece cast steel bed with cylinders integrally cast. Charles P. Whitehead (left), General Steel Castings president, is handing title to the locomotive to A. K. Atkinson,

son, president of the Wabash and chairman of the museum. Others in the photograph are, in the usual order: Harry R. Bartell, assistant vice-president—sales, GSC; Howard F. Park, Jr., vice-president—sales, GSC; Clark Hungerford, president, St. Louis-San Francisco; G. Fred Driemeyer, vice-president, GSC; Dr. John P. Roberts, president of the museum; James MacDonald, vice-president, GSC; Robert E. Stevenson, vice-president, Gulf, Mobile & Ohio; and Armstrong Chinn, president, TRRA.

with a bar and every second seat has been removed to make room for low coffee tables.

"Leaving Los Angeles in the morning," the road said, "anyone who wants a continental breakfast will find fruit juices, hot rolls and coffee in the buffet car. Lunch will consist of cold cuts and salad dishes. On the evening return trips, there will be one hot entree, plus supplementary items. Service will be western chuck-wagon style and passengers may go back to the 'Chuck Wagon,' as the car will be called, as often as they wish."

The schedule calls for a daily 9 a.m. departure from Los Angeles Union Station and arrival in Los Vegas at 3:50 p.m. The train, to be called "City of Las Vegas," will

leave the Nevada city at 5 p.m. and reach Los Angeles at 11:45 p.m. Passenger stops en route will be at East Los Angeles, Pomona, Riverside and San Bernardino.

UP Dispatchers Drop Union as Bargainer

The American Train Dispatchers Association has been displaced by a system committee as collective bargaining agent for train dispatchers employed by the Union Pacific. The new agent is Union Pacific Train Dispatchers, H. W. Stoker, chairman.

It won the assignment in a recent election, having defeated ATDA by a vote of 174 to 54. That result has been certified by the NMB.

August Accidents

The ICC has made public its Bureau of Transport Economics and Statistics' preliminary summary of railroad accidents in August and this year's first eight months. The compilation, subject to revision, follows:

| | Month of August 1956 | 8 months ended with August 1955 | 1956 | 1955 |
|---|----------------------------|---------------------------------------|--------|--------|
| Number of train accidents* | 818 | 857 | 6,255 | 5,620 |
| Number of accidents resulting in casualties | 41 | 47 | 336 | 316 |
| Number of casualties in train train-service and nontrain accidents: | | | | |
| Travellers: | | | | |
| Killed | 89 | 109 | 538 | 536 |
| Injured | 86 | 107 | 592 | 556 |
| Passengers on trains: | | | | |
| (a) In train accidents* | | | | |
| Killed | 19 | 4 | 43 | 4 |
| Injured | 33 | 902 | 326 | |
| (b) In train-service accidents | | | | |
| Killed | 1 | 4 | 8 | 8 |
| Injured | 152 | 196 | 1,119 | 1,151 |
| Travelers not on trains: | | | | |
| Killed | | | 2 | 4 |
| Injured | 64 | 64 | 561 | 559 |
| Employees on duty: | | | | |
| Killed | 12 | 17 | 142 | 155 |
| Injured | 1,700 | 1,829 | 12,432 | 11,693 |
| All other non-trespassers** | | | | |
| Killed | 99 | 113 | 835 | 870 |
| Injured | 369 | 386 | 3,292 | 3,342 |
| Total—All classes of persons: | | | | |
| Killed | 201 | 247 | 1,568 | 1,577 |
| Injured | 2,390 | 2,615 | 18,898 | 17,627 |

*Train accidents (mostly collisions and derailments) are distinguished from train-service accidents by the fact that the former caused damage of \$375 or more to railway property. Only a minor part of the total accidents resulted in casualties to persons, as noted above.

**Casualties to "Other nontrespassers" happen chiefly at highway grade crossings. Total highway grade-crossing casualties for all classes of persons, including both trespassers and nontrespassers, were as follows:

| | | | | | |
|----------|---------------|-----|-----|-------|-------|
| Persons: | Killed | 94 | 109 | 811 | 791 |
| | Injured | 245 | 273 | 2,302 | 2,260 |

Regular Rail Service Can Pinch Hit for T-O-F-C

On a temporary basis, at least, the Interstate Commerce Commission has decided to permit substitution of regular railroad freight service for piggyback service.

It has vacated the suspension order which it issued August 31 to hold up for investigation some tariffs providing for such substitution (Railway Age, Sept. 17, p. 5). The proceeding is I&S No. 6649, and the vacating order, dated November 7, stipulated that the tariffs could be made effective November 17, but the investigation of them will continue.

RR Unemployment Taxes To Jump by \$25 Million

Beginning January 1 railroads will pay a higher unemployment and sickness payroll tax rate to the Railroad Retirement Board.

The balance in the board's unemployment insurance account on September 30 determines the payroll tax rate for the next year (Railway Age, Sept. 10, p.5).

The account balance was below \$350 million last September 30 and therefore the tax rate will increase from 1½% of taxable payroll to 2%.

This means railroads will have to pay out about \$25 million more to support the board's unemployment and sickness insurance program next year, assuming a taxable payroll of about \$5.2 billion.

'Realistic' Approach Marks SP Passenger Operations

The Southern Pacific's passenger business is governed by a "realistic" approach, D. J. Russell, the road's president, told the New York Society of Security Analysts November 16.

SP plans no new equipment purchases at this time, he said, although it has 21 commuter coaches on order. The road does not intend to get out of the passenger business, Mr. Russell declared, but he assailed requirements that it provide service not only at a loss but in cases where there is no apparent demand for it.

He said the SP anticipates gross revenues of about \$675 million this year as again \$667 million in 1955 and went on to predict that the business economy will continue strong through the first half of 1957.

However, he noted, higher costs and especially higher wages eat sharply into the railroad's gross and added that freight-rate increases have not offset these still-soaring expenses.

Port Strike Brings AAR Embargo

An embargo on all freight for export and coastal shipping through the Atlantic and Gulf ports was issued by the Association of American Railroads on November 19, due to the strike of longshoremen.

Exceptions include military freight consigned to military installations, freight moving on permits issued by superintendents of transportation of final carriers, the West India Car Ferries at West Palm Beach, Fla., and the Baltimore Steamship Packet.



The Shape of Things to Come—By Rail

This 235-ton reactor vessel for the nation's first commercial nuclear power plant was shipped from Chattanooga, Tenn., on September 25. Destined for Shippenport, Pa., 365 miles away, the giant vessel traveled 1,065 miles to reach destination. It moved Southern to Bristol, Va., Norfolk & Western to Hagerstown, Md., and

Pennsylvania to Shippenport. Barges couldn't handle the job because no floating crane in the Pittsburgh area had the capacity to unload it. The vessel was loaded on a PRR 24-wheel, 250-ton flat car, a speed restriction of 25 mph applied, and en route adjacent tracks were cleared of cars to facilitate passage.

4.3% of Intercity Travel Was by Rail

Railroads got only 4.3% of 1955's intercity passenger business as measured by passenger-miles. More than 88% of the year's intercity travel was by private automobile.

These, and like figures for other agencies of transportation, are set out in the accompanying table, reproduced from "Transport Economics," published by the ICC's Bureau

of Transport Economics and Statistics.

As the table shows, the business of railroads and bus lines was down from 1954. Air carriers increased their business by 16.2%, but their proportion of the total rose less than one-half per cent. Water carriers about held their own according to the report.

Volume of intercity passenger traffic in passenger-miles by kinds of transportation, 1954-1955

| Transport Agency | Passenger-miles (billions) | | Per cent change, 1955 from 1954 ² | Per cent of annual total | |
|---|-------------------------------|-------------------|--|--------------------------------|-------|
| | 1954 | 1955 ¹ | | 1954 | 1955 |
| Railways, steam, diesel and electric | 29.5 | 28.7 | — 2.6 | 4.7 | 4.3 |
| Motor vehicles: | | | | | |
| Motor carriers of passengers | 25.6 | 25.1 | — 1.9 | 4.1 | 3.8 |
| Private automobiles | 548.8 | 585.8 | + 6.8 | 87.8 | 88.2 |
| Total | 574.4 | 610.9 | + 6.4 | 91.9 | 92.0 |
| Inland waterways, including Great Lakes | 1.7 | 1.7 | + 2.2 | 0.3 | 0.3 |
| Airways (domestic revenue service and pleasure and business flying). | 19.6 | 22.7 | +16.2 | 3.1 | 3.4 |
| Grand Total | 625.1 | 664.1 | + 6.2 | 100.0 | 100.0 |

¹ Preliminary estimates.

² Percentages computed before rounding.

All-Electronic Operation Foreseen

Entire railroads of the future may be controlled electronically from one central point, Joseph A. Fisher, president of the Reading, said last week.

"We have the basic elements now for a virtually automatic railroad," Mr. Fisher said. "Using the Reading as an example, I can see no reason why at a future date, the system cannot be controlled from one room in Reading Terminal."

The Reading president told a dinner meeting of the Engineers Club of Philadelphia that the railroad industry is "realizing on every front the benefits of technological research, scientific development and ingenuity."

But, he said, improvements ahead will be "evolutionary rather than revolutionary" because of the requirements of new railroad equipment to fit in with that now in use.

As examples of the "dramatic use of electronics in virtually every phase of current railroad opera-

tions," Mr. Fisher cited the following: (1) use of radio, or the inductive system, to start, stop or move a train from a remote point, (2) remote control handling of complicated yard operations, (3) control of train movements over great distances from a centrally located point, (4) use of devices whereby trains are able to identify themselves as they pass a given point, and even to set-up their own routes.

In addition to improved signalling and traffic control, Mr. Fisher said, electronics have entered railroad offices with so-called electronic brains, which are taking an increasing burden of railroad accounting and statistical work.

He warned, however, that for railroads to realize the continuing benefits of technological advances "they must have adequate earnings and an opportunity to compete equally for available traffic . . . neither of which they now have."

ing that this year's goal of reducing the number of bad-order freight cars to 4% of the fleet had been achieved (before the offsetting effects of the steel strike) and that the goal for 1957 is to reduce the bad-order ratio to 3%. Such a reduction would have the effect of adding about 17,500 freight cars to the serviceable fleet.

William T. Farley was elected for the 10th consecutive year as president of the association. The only change in the board of directors saw Robert H. Smith, president of the Norfolk & Western, elected to replace Walter J. Tuohy, president of the Chesapeake & Ohio.

SP Blast for Fill One of Country's Largest

Rock rocked and thunder rolled last week across the Great Salt Lake and surrounding Utah when Southern Pacific Lines detonated 600,000 pounds of explosive in a rock blast to obtain fill materials for its new

Investment in RRs 64% Above 1920's

Investment in Class I, II and III railroads increased 63.8% between 1920 and 1955 while total capitalization dropped 8.4%.

This was reported by the ICC's Bureau of Transport Economics and Statistics in its "Transport Economics." The figures are on a before-depreciation basis, and they also show that the 1920 capitalization amounted to 101.9% of the investment, while the comparable percentage for 1955 was 56.9.

The bureau adjusted the figures to make allowances for depreciation and amortization of defense projects. On that basis they showed that the 1920 and 1955 ratios of capitalization to net investment were 107.8% and 73.4%, respectively.

The 8.4% drop in capitalization between 1920 and 1955 was the net

result of a 13.3% decline in funded debt and a 2.2% drop in capital stock. Funded debt was equivalent to 57.4% of the 1920 investment before depreciation and 60.7% of the after-depreciation figure.

Comparable percentages for 1955 were 30.3 and 39.1.

The before-depreciation investment figures were \$19,849,000,000 for 1920 and \$32,513,000,000 for 1955. The 1920 capitalization was \$20,229,000,000, including \$11,386,000,000 in funded debt and \$8,843,000,000 in stock. The 1955 capitalization was \$18,527,000,000, including \$9,876,000,000 in funded debt and \$8,651,000,000 in stock. As the bureau pointed out, the financial reorganizations and voluntary debt reductions effected in the 'forties' "had a marked effect" on railway capital structures.

35-Cent Per Diem Hike Voted

A proposal to raise the current per diem rate from \$2.40 to \$2.75 was approved by the board of directors at the AAR's annual member road meeting in New York City, November 15-16. Announcement by the AAR said that a letter ballot vote

will be taken "promptly" and if the proposal is "approved by subscribers owning a majority of the revenue freight cars used in interchange, the new rate will go into effect at an early date."

It also was announced at the meet-



'Giant Brain' for GN

Univac recently made its debut in the Twin Cities when one of the \$1.5-million data-processing computers was delivered to the Great Northern. The computer, leased by the GN from Remington Rand, is the first Univac to be installed in the Northwest and the second one on U.S. railroads. The machine is shown being hoisted to a specially constructed outside doorway on the fifth floor level of the railroad's general office building in St. Paul, Minn.

\$49-million lake-splitting causeway.

The explosion, one of the largest non-atomic blasts ever set off in the United States, ripped an estimated 1,000,000 tons of rock from the side of a 300-ft cliff just south of the railroad's main line track on the western edge of the lake. The entire project—replacement of an existing 12-mile wooden trestle with a roadbed across the lake—is expected to take another 3½ years.

Off Again, On Again On NYC's West Shore

The New York Central's running fight with the New York Public Serv-

ice Commission continued last week, with the issue of whether the PSC can force the railroad to run trains into New Jersey on its West Shore line still to be settled in the courts.

Central's move to enjoin the commission from enforcing what the road held to be contradictory orders (Railway Age, Nov. 19, p. 12), was offset by a counter-move in a higher court. Central, following a delay because it had diverted equipment from the West Shore commuter service, was to reinstate the schedules the PSC insisted on at the end of last week. It was to continue them pending a hearing in New York State Supreme Court at Albany December 4.

Financial

Central of Georgia.—Three-Way Control Urged.—An Interstate Commerce Commission examiner has recommended that three railroads—the Frisco, the Illinois Central and the Seaboard Air Line—be authorized to acquire joint and equal control of the CofGa. The examiner also recom-

mended that Division 4 of the ICC direct the Frisco to divest itself immediately of control of the CofGa, which the Frisco last year accomplished, without prior commission approval, through purchase of a majority of the CofGa's voting stock.

Dividends Declared

ALLEGHENY & WESTERN.—\$3, semiannual, payable January 2, 1957, to holders of record December 20.

BALTIMORE & OHIO.—Common, \$2.50, for year 1956, payable December 27 to holders of record November 30; also, common 50c, quarterly, and preferred, \$1 quarterly, both payable March 14, June 14, September 15 and December 16, 1957, to holders of record, respectively, on February 21, May 24, August 26 and November 26, 1957.

BESSEMER & LAKE ERIE.—Preferred, \$1.50, semiannual, payable December 1 to holders of record November 15.

CHESAPEAKE & OHIO.—3½% convertible preferred, 87½c, quarterly, payable February 1, 1957, to holders of record January 7, 1957.

CHICAGO, ROCK ISLAND & PACIFIC.—67½c, quarterly, payable December 31 to holders of record December 13.

ST. LOUIS-SAN FRANCISCO.—50c, quarterly, payable December 15 to holders of record December 1.

SOUTHERN PACIFIC.—75c, quarterly, payable December 17 to holders of record November 26.

Applications

BANGOR & AROOSTOOK.—To issue 12,500 shares of common stock with par value of \$1 per share. The stock would be sold to key employees under provisions of a stock option plan.

CENTRAL OF GEORGIA.—To assume liability for \$840,000 of equipment trust certificates to finance in part the acquisition of six 1,750-hp. diesel-electric road switching locomotives from the Electro-Motive Division of General Motors Corporation at an estimated unit cost of \$167,676, and five 70-ton gondola cars from the Greenville Steel Car Company at an estimated unit cost of \$10,118. The certificates, dated November 1, would mature in 30 semi-annual installments of \$28,000 each, beginning May 1, 1957. They would be sold by competitive bids which would fix the interest rate.

CHICAGO GREAT WESTERN.—To issue 9,037 shares of common stock with par value of \$30 per share. The stock would be distributed as a dividend to present stockholders on the basis of one share for each 40 shares now held.

CHICAGO & ILLINOIS MIDLAND.—Seeks relief from competitive bidding requirements in connection with anticipated sale of up to \$9 million in first mortgage bonds. Bond issue would retire \$7,450,000 of outstanding notes, and finance the purchase of 299 freight cars now covered by equipment trust certificates. Road says it needs freedom to negotiate for private sale of the bonds because it is "not well known" in financial circles.

CHICAGO & NORTH WESTERN.—To assume liability for \$3,375,000 of equipment trust certificates to finance in part the acquisition of 600 box cars from Pullman-Standard Car Manufacturing Company—500 at an estimated unit cost of \$6,972, and 100 at \$7,145. The certificates would mature in 15 annual installments of \$225,000 each, beginning November 15, 1957. They would be sold by competitive bids which would fix the interest rate.

CHICAGO, BURLINGTON & QUINCY.—To assume liability for \$3,600,000 of equipment trust certificates to finance in part the acquisition of 200 flat cars at an estimated unit cost of \$6,250; 250 covered hoppers at \$7,200 each; and 70 mechanical refrigerator cars at \$22,200 each. The cars would be built in Burlington shops. The certificates would mature in 30 semi-annual installments of \$120,000 each, beginning May 1, 1957. They would be sold by competitive bids which would fix the interest rate.

ERIE.—To assume liability for \$2,805,000 of equipment trust certificates to finance in part 500 box cars which would be acquired from the General American Transportation Corporation at an estimated unit cost of \$7,250, the estimated total cost being \$3,625,000. The certificates would mature in 15 annual installments of \$187,000 each, beginning January 1, 1958. They would be sold by competitive bids which would fix the interest rate.

LOUISVILLE & NASHVILLE.—To assume liability for \$7,605,000 of equipment trust certificates to finance in part equipment expected to cost a total of \$9,310,982.

| Description and Builder | Estimated Unit Cost |
|---|---------------------|
| 8 1,750-hp diesel-electric road switching locomotives (Electro-Motive Division, General Motors Corporation) | \$188,890 |
| 3 1,750-hp diesel-electric road freight "A" units (Electro-Motive) | 188,798 |
| 2 1,750-hp diesel-electric road freight units (Electro-Motive) | 198,081 |
| 2 1,750-hp diesel-electric road freight units (Electro-Motive) | 176,943 |
| 2 1,750-hp diesel-electric road freight "B" units (Electro-Motive) | 173,121 |
| 250 box cars (Pullman-Standard Car Manufacturing Company) | 9,457 |
| 250 flat cars (Pullman-Standard) | 7,979 |
| 150 pulpwood rack cars (ACF Industries, Inc.) | 8,015 |
| 80 mill-type gondola cars (Greenville Steel Car Company) | 9,700 |

The certificates would mature in 15 annual installments of \$307,000 each, beginning November 1, 1957. They would be sold by competitive bids which would fix the interest rate.

MINNEAPOLIS & ST. LOUIS.—To assume liability for \$2,640,000 of equipment trust certificates to finance in part the acquisition of 490 50-ton box cars which would be constructed in M&StL shops at an estimated unit cost of \$6,765 and a total cost of \$3,314,850. The certificates would mature in 30 semi-annual installments of \$88,000 each, beginning May 1, 1957. They would be sold by competitive bids which would fix the interest rate.

NEW YORK CENTRAL.—To assume liability for \$8,055,000 of equipment trust certificates to finance in part 1,200 70-ton, self-clearing hopper cars to be acquired from ACF Industries, Inc., at an estimated unit cost of \$8,400. The estimated total cost is \$10,080,000. The certificates would mature in 15 annual installments of \$537,000 each, beginning January 1, 1958.

NEW YORK, NEW HAVEN & HARTFORD.—To assume liability for \$2,715,000 of equipment trust certificates to finance in part the acquisition of 17 locomotives, including 15 1,800-hp. diesel-electric road switchers from Alco Products, Inc., at an estimated unit cost of \$191,532. The other two, to be acquired from Fairbanks, Morse & Co., at an estimated unit cost of \$267,547, would be of 1,720 hp. and equipped for operation either as diesel-electrics or as 600-volt electrics. The estimated total cost of the equipment would be \$3,408,074. The certificates would mature in 15 annual installments of \$181,000 each, beginning May 1, 1957. They would be sold by competitive bids which would fix the interest rate.



50th Anniversary

The Santa Fe Magazine, established in Chicago in 1906 as a source of education and information for the railroad's employees, will celebrate its 50th anniversary next month. The cover of the magazine's first issue is reproduced above.

PENNSYLVANIA.—To assume liability for \$9,300,000 of equipment trust certificates to finance 55 1,750-hp diesel-electric locomotive units to be acquired from Electro-Motive Division, General Motors Corporation, at an estimated unit cost of \$191,268, and 215 box cars to be built in Altoona shops at an estimated unit cost of \$8,900. Estimated total cost of the equipment is \$12,433,240. The certificates would mature in 30 semiannual installments of \$310,000 each, beginning July 1, 1957. They would be sold by competitive bids which would fix the interest rate.

PITTSBURGH & LAKE ERIE.—To assume liability for \$7,305,000 of equipment trust certificates to finance in part the acquisition of 1,150 freight cars—650 70-ton hopper cars from Bethlehem Steel Company at an estimated unit cost of \$8,400, and 500 70-ton gondola cars from Despatch Shops, Inc., at an estimated unit cost of \$7,350. Total cost of the equipment is estimated at \$9,135,000. The certificates would mature in 15 annual installments of \$487,000 each, beginning November 15, 1957. They would be sold by competitive bids which would fix the interest rate.

SOUTHERN.—To issue \$12,770,000 of its first consolidated mortgage, 5% bonds, due July 1, 1994. The applicant does not propose to sell the bonds, but would hold them in its treasury to replace funds used November 1 to retire bonds of the East Tennessee, Virginia & Georgia.

SOUTHERN PACIFIC.—To assume liability for \$9,600,000 of equipment trust certificates to finance in part the equipment listed below.

| Description and Builder | Estimated Unit Cost |
|--|---------------------|
| 14 1,750-hp diesel-electric locomotive units (Electro-Motive Division, General Motors Corporation) | \$181,696 |
| 7 1,800-hp diesel-electric freight locomotive units (Alco Products, Inc.) | 176,877 |
| 10 1,200-hp diesel-electric switching locomotive units (Fairbanks, Morse & Co.) | 119,901 |
| 14 900-hp diesel-electric switching locomotive units (Alco) | 105,239 |
| 405 hopper cars (Southern Pacific shops) | 7,808 |
| 38 "piggy-back" flat cars (SP shops) | 11,998 |
| 219 box cars with auto loaders (SP shops) | 10,989 |
| 18 50-ton box cars (SP shops) | 8,544 |

The certificates would mature in 15 annual installments of \$640,000 each beginning November 1, 1957. They would be sold by competitive bids which would fix the interest rate.

WESTERN MARYLAND.—To assume liability for \$4,815,000 of 3 1/2% equipment trust certificates to finance in part equipment (listed below) expected to cost \$6,022,308.

| Description and Builder | Estimated Unit Cost |
|--|---------------------|
| 3 1,750-hp diesel-electric switching locomotives (Electro-Motive Division, General Motors Corporation) | \$179,983 |
| 500 70-ton hopper cars (Bethlehem Steel Company) | 9,089 |
| 103 70-ton covered hopper cars (Greenville Steel Car Company) | 9,105 |

The certificates would mature in 15 annual installments of \$321,000 each beginning October 1, 1957. Subject to commission approval, they have been sold for 99.32¢, the best bid received, to the following: Salomon Bros. & Hutzler; Eastman Dillon, Union Securities & Co.; Drexel & Co.; Stroud & Co.

WESTERN MARYLAND.—To issue and sell 14,700 shares of common stock. The stock would be sold to WM officers pursuant to a stock option plan.

metallurgical research laboratory next spring. To be located near the company's Steel and Tube Division offices in Canton, Ohio, the new building will centralize under one roof many of the metallurgical research facilities now located in several separate buildings. The research program is in charge of Dr. Daniel J. Girardi and more than 75 metallurgical scientists will use the new research center when it is completed.

American Hoist & Derrick Company has expanded its operation to the West Coast and has formed a new corporation, **American Hoist Pacific Company**, at Seattle. Charles D. Gould, of that city, has joined the new corporation as vice-president and general manager.

G. Leonard Smith, formerly with the **Perfect Circle Corporation**, has become mid-western representative of **Dana Corporation**, at Chicago.

John A. Vaughan has been appointed manager-engineering of the Watertown Division, **New York Air Brake Company**, to succeed Karl W. Galliger, recently appointed director of engineering of the company. Mr. Vaughan was previously vice-president for research and development of the **W. L. Maxson Corporation**.

Baker-Raulang Company has moved its Dallas branch to 1703 Levee street. **M. S. Stevenson**, formerly a district sales manager, has been named manager of the branch.

Royal H. Stewart has joined **Howe Scale Company** as assistant sales manager, materials handling division, and manager, motor freight sales, after acting as transportation and materials handling consultant to the company for several months.

Harry E. Orr, assistant vice-president and manager engineering sales, **Vanadium Corporation of America**, Chicago, has been appointed commercial vice-president in charge of engineering sales, Pittsburgh. **Raymond H. Filsinger**, district manager, Pittsburgh, has been named assistant vice-president, sales, New York, and **Howard H. Wilder**, manager of engineering sales, at Chicago.

Huck Manufacturing Company has appointed **Allen R. Tonny** eastern division sales manager and **William Messer**, mid-west division sales manager.

George W. Lewis, secretary, **North American Car Corporation**, will retire November 30. He will be succeeded by **Edgar C. Corry**, a vice-president of the corporation.

Spring Packing Corporation has appointed **Randolph B. Cooke**, **Railroad Supply Company**, Baltimore, as its representative in the sale of products to southeastern railroads.

Ajax-Consolidated Company has appointed **Seaboard Sales Corporation** to handle sale of its products in the Northeast.

Arthur P. Gruner, a sales engineer for **Evans Products Company**, will head a new DF Loader service office in the Western Savings Fund Building, Philadelphia, to provide eastern states shippers with information and advice regarding the best use of Evans railroad loading equipment.

Supply Trade

John D. Ristine, formerly vice-president, **Grip-Nut Company**, Chicago, has re-entered the railway field as sales agent, **Frost Paint & Oil Corp.**, Minneapolis, in the Chicago area.

General American Transportation Corporation has announced the elections of **Sam Laud** as chairman, and **Lester N. Selig** as chairman of the executive committee.

Timken Roller Bearing Company will begin construction of a new half million dollar

Giddings & Lewis Machine Tool Company has appointed **John M. Dolan**, formerly with **Solar Aircraft Company**, vice-president-general manager, field sales division.

L. L. Dodge, director of planning and budgets of **Dana Corporation**, has been named assistant general sales manager.

K. W. Engstrom, district sales agent of **Rail Joint Company** at San Francisco, has been appointed district sales manager there. **J. J. Gallagher** has been named district sales agent at Denver. **John N. Meade**, Denver representative, will retire December 31.

Buckeye Steel Castings Company has appointed **George T. Johnson, Jr.**, southeastern representative, succeeding **Jacob C. Larsen**, retired.

L. B. Foster Company has added **Angus A. Coughlin** to the sales department of its New York Office.

Pettibone Mulliken Corporation is acquiring **Mercury Manufacturing Company**, Chicago, manufacturers of tow tractors, electric lift trucks and trailers, through an exchange of stock.

Ralph G. Greer, manager of **International Harvester Company's** Washington, D.C., office, has been appointed assistant sales manager of the construction equipment division, succeeding **C. E. Jones**, named supervisor of national contractor's sales.

Link-Belt Company has announced the following transfers of district sales managers: **George A. Most, Jr.**, to Boston; **J. Charles Bullock** to Moline, Ill.; **Gene A. Zwerner** to Albany, N.Y.; **C. C. Wiley** to Washington, D.C., and **Paul Waldorf**, a sales engineer, appointed district sales manager at Baltimore.

Andreas J. Darlison has joined the **Nickel Cadmium Battery Corporation** as eastern district manager at New York, succeeding **Malville E. Ingalls**, appointed special representative for sales to railroads.

Texas Company has appointed **R. J. Ronan** regional manager—technical services, with headquarters in Beacon, N.Y. He will have charge of technical services for industries in the eastern and Middle Atlantic states.

Yale & Towne Manufacturing Company has appointed **Louis W. Jander** eastern regional sales manager of Yale Materials Handling Division, and **Neal J. Kemp, Jr.**, midwestern regional sales manager. These appointments are part of a program of organizing the Yale domestic sales organization into four regions, with offices in Philadelphia, Chicago, Atlanta and San Francisco.

Peter J. Wolf, sales manager of the **Maintenance Equipment Company**, has been appointed vice-president, with headquarters as before at Chicago. **Charles J. Miller** has been appointed vice-president with headquarters at New York, where he is also vice-president of the **P. & M. Co.**

Walter M. Klopsch, plant manager of the Libertyville, Ill., plant, **Morton Manufacturing Company**, appointed to the newly created position of director of engineering, Chicago.

REVENUES AND EXPENSES OF RAILWAYS

(Dollar figures are stated in thousands, i.e., with last three digits omitted)

MONTH OF SEPTEMBER AND NINE MONTHS OF CALENDAR YEAR 1956

| Name of Road | Average mileage operated | | Operating Revenues— during period | | Total One-misc.) | | Total 1956 | | Total 1955 | | Total 1956 | | Total 1955 | | Operating Expenses— Main Equipment Deprec. and Structures Depre. | | Operating Expenses— Main Equipment Deprec. and Structures Depre. | | |
|--|--------------------------|---------|--------------------------------------|---------|------------------|--------|------------|--------|------------|--------|------------|--------|------------|---------|--|---------|--|-----------|--------|
| | Freight | Passe. | Freight | Passe. | Total | 1955 | Total | 1956 | Total | 1955 | Total | 1956 | Total | 1955 | Total | 1956 | Total | 1955 | |
| Akron, Canton & Youngstown | \$501 | ... | \$514 | 4,450 | 4,462 | 641 | 632 | 557 | \$60 | 114 | 116 | 116 | 116 | 116 | 116 | 116 | 116 | \$37 | |
| Albion, 36,738 9 mos. | 171 | 4,559 | 31,795 | 44,766 | 45,360 | 6,112 | 7,610 | 8,757 | 8,605 | 2,147 | 1,152 | 1,152 | 1,152 | 1,152 | 1,152 | 1,152 | 1,152 | 4,575 | |
| Atchison, Topeka & Santa Fe | 13,124 | 34,412 | 43,761 | 42,617 | 42,617 | 6,901 | 59,718 | 6,374 | 6,374 | 18,584 | 11,482 | 14,816 | 33,097 | 33,097 | 33,097 | 33,097 | 33,097 | 5,615 | |
| Atlanta & St. Andrews Bay | 13,245 | 3,247 | 11,5 | 3,299 | 3,077 | 392 | 318 | 25 | 281 | 23 | 23 | 23 | 18,722 | 14,616 | 14,616 | 14,616 | 14,616 | 54,166 | |
| Atlanta & West Point | 93 | 240 | 31 | 329 | 360 | 34 | 43 | 64 | 65 | 15 | 155 | 1320 | 2,147 | 2,147 | 2,147 | 2,147 | 2,147 | 53 | |
| Western of Alabama | 93 | 240 | 274 | 2993 | 2,425 | 404 | 342 | 57 | 580 | 69 | 120 | 155 | 1,320 | 2,659 | 2,659 | 2,659 | 2,659 | 1 | |
| 9 mos. | 133 | 266 | 223 | 328 | 335 | 408 | 50 | 58 | 58 | 68 | 19 | 18 | 137 | 2,224 | 2,224 | 2,224 | 2,224 | 23 | |
| 9 mos. | 133 | 2465 | 258 | 3,096 | 3,050 | 427 | 411 | 69 | 632 | 557 | 164 | 168 | 1,234 | 2,654 | 2,654 | 2,654 | 2,654 | 34 | |
| 9 mos. | 5,292 | 9,936 | 1,877 | 11,453 | 2,068 | 2,411 | 159 | 159 | 6316 | 599 | 423 | 4919 | 11,030 | 10,501 | 10,501 | 10,501 | 10,501 | 151 | |
| 9 mos. | 5,289 | 102,116 | 13,667 | 155,802 | 118,251 | 22,443 | 21,484 | 1,455 | 27,375 | 25,609 | 5,439 | 3,899 | 48,570 | 108,097 | 108,097 | 108,097 | 108,097 | 929 | |
| Charleston & Western Carolina | 93 | 240 | 31 | 329 | 360 | 34 | 43 | 64 | 65 | 15 | 155 | 1320 | 2,147 | 2,147 | 2,147 | 2,147 | 2,147 | 53 | |
| Baltimore & Ohio | 93 | 240 | 274 | 2993 | 2,425 | 404 | 342 | 57 | 580 | 69 | 120 | 155 | 1,320 | 2,659 | 2,659 | 2,659 | 2,659 | 1 | |
| 9 mos. | 6,020 | 34,307 | 1,341 | 35,554 | 317,255 | 37,728 | 4,437 | 72,692 | 72,692 | 67,728 | 3,809 | 8,798 | 12,561 | 278,944 | 278,944 | 278,944 | 278,944 | 278,944 | |
| 9 mos. | 6,020 | 309,054 | 14,214 | 14,214 | 14,214 | 14,214 | 4,080 | 37,728 | 37,728 | 37,728 | 37,728 | 37,728 | 37,728 | 37,728 | 37,728 | 37,728 | 37,728 | | |
| Staten Island Rapid Transit | 29 | 1,712 | 530 | 2,275 | 2,233 | 452 | 401 | 106 | 112 | 262 | 222 | 16 | 15 | 2,270 | 2,270 | 2,270 | 2,270 | 2,270 | |
| Bunker & Astorock | 9 mos. | 602 | 11,765 | 233 | 12,440 | 3,074 | 2,569 | 2,300 | 24 | 273 | 305 | 103 | 23 | 3,012 | 885 | 885 | 885 | 885 | |
| Bossemer & Lake Erie | 9 mos. | 602 | 11,765 | 233 | 12,440 | 3,074 | 2,569 | 2,300 | 24 | 273 | 305 | 103 | 23 | 3,012 | 885 | 885 | 885 | 885 | |
| 9 mos. | 208 | 18,070 | 1,877 | 11,453 | 2,068 | 2,411 | 1,588 | 1,588 | 1,588 | 1,588 | 1,588 | 1,588 | 1,588 | 1,588 | 1,588 | 1,588 | 1,588 | | |
| Boston & Maine | 9 mos. | 1,572 | 5,428 | 807 | 7,047 | 7,541 | 950 | 1,514 | 1,514 | 1,514 | 1,514 | 1,514 | 1,514 | 1,514 | 1,514 | 1,514 | 1,514 | | |
| 9 mos. | 1,572 | 50,700 | 7,874 | 65,875 | 64,022 | 9,068 | 9,189 | 1,325 | 1,325 | 8,471 | 8,078 | 1,882 | 1,283 | 29,740 | 52,286 | 52,286 | 52,286 | 52,286 | |
| Canadian Pacific Lines in Maine | 9 mos. | 234 | 314 | 79 | 424 | 378 | 1,096 | 932 | 94 | 884 | 677 | 17 | 8 | 2,449 | 4,104 | 4,104 | 4,104 | 4,104 | |
| Carolina & Northwestern | 9 mos. | 4,953 | 436 | 5,639 | 5,215 | 5,215 | 5,215 | 932 | 153 | 1,088 | 1,002 | 157 | 75 | 2,449 | 4,648 | 4,648 | 4,648 | 4,648 | |
| Central Vermont | 9 mos. | 329 | 333 | 302 | 302 | 302 | 302 | 83 | 7 | 100 | 14 | 7 | 10 | 18 | 3,722 | 3,722 | 3,722 | 3,722 | |
| Central of Georgia | 9 mos. | 2,896 | 1,441 | 2,948 | 2,487 | 2,487 | 2,487 | 583 | 601 | 60 | 164 | 143 | 63 | 39 | 1,545 | 1,545 | 1,545 | 1,545 | |
| Central Pennsylvania & Ohio | 9 mos. | 1,764 | 3,250 | 141 | 3,636 | 3,463 | 3,463 | 618 | 44 | 610 | 610 | 170 | 170 | 1,385 | 3,013 | 3,013 | 3,013 | 3,013 | |
| Central of New Jersey | Sept. | 612 | 4,464 | 488 | 5,323 | 5,026 | 5,026 | 612 | 818 | 1,196 | 1,084 | 1,022 | 1,022 | 1,022 | 847 | 103,6 | 103,6 | 103,6 | 103,6 |
| Central Vermont | Sept. | 383 | 823 | 3,717 | 3,717 | 3,717 | 3,717 | 298 | 17 | 100 | 938 | 938 | 938 | 938 | 938 | 83,220 | 83,220 | 83,220 | 83,220 |
| Central of North Western | Sept. | 395 | 7,357 | 8,791 | 8,791 | 8,791 | 8,791 | 1,897 | 1,822 | 1,822 | 1,822 | 1,822 | 1,822 | 1,822 | 1,822 | 1,822 | 1,822 | 1,822 | |
| Central of Georgia | Sept. | 5,132 | 33,702 | 610 | 36,332 | 34,059 | 34,059 | 4,101 | 4,249 | 4,249 | 4,505 | 5,336 | 5,336 | 5,336 | 5,336 | 23,033 | 23,033 | 23,033 | 23,033 |
| Chesapeake & Ohio | Sept. | 5,162 | 288,102 | 5,454 | 309,909 | 28,127 | 34,833 | 33,066 | 3,653 | 3,653 | 4,188 | 13,963 | 6,498 | 10,488 | 10,488 | 10,488 | 10,488 | 10,488 | |
| Chicago, Burlington & Quincy | Sept. | 8,862 | 2,691 | 108 | 3,921 | 2,862 | 2,862 | 361 | 2,978 | 3,897 | 3,865 | 3,557 | 3,104 | 919 | 549 | 8,119 | 8,119 | 8,119 | 8,119 |
| Chicago Great Western | Sept. | 8,860 | 15,651 | 1,993 | 21,130 | 25,404 | 3,314 | 3,622 | 4,461 | 4,461 | 4,461 | 4,461 | 4,461 | 4,461 | 1,137 | 2,446 | 2,446 | 2,446 | 2,446 |
| Chicago, Milwaukee, St. Paul & Pacific | Sept. | 1,477 | 2,041 | 1,441 | 2,738 | 2,991 | 2,991 | 1,451 | 2,450 | 2,450 | 2,450 | 2,450 | 2,450 | 2,450 | 1,125 | 2,446 | 2,446 | 2,446 | 2,446 |
| Chicago, Rock Island & Pacific | Sept. | 1,477 | 2,041 | 1,441 | 2,738 | 2,991 | 2,991 | 1,451 | 2,450 | 2,450 | 2,450 | 2,450 | 2,450 | 2,450 | 1,125 | 2,446 | 2,446 | 2,446 | 2,446 |
| Chicago & Northwestern | Sept. | 1,477 | 2,041 | 1,441 | 2,738 | 2,991 | 2,991 | 1,451 | 2,450 | 2,450 | 2,450 | 2,450 | 2,450 | 2,450 | 1,125 | 2,446 | 2,446 | 2,446 | 2,446 |
| Colorado, Rock Island & Pacific | Sept. | 7,597 | 12,495 | 13,143 | 15,591 | 15,373 | 2,535 | 2,480 | 2,480 | 2,480 | 2,480 | 2,480 | 2,480 | 2,480 | 512 | 12,753 | 12,753 | 12,753 | 12,753 |
| Chicago, St. Paul, Minn. & Omaha | 9 mos. | 1,616 | 2,124 | 144 | 2,738 | 2,991 | 2,991 | 1,451 | 2,450 | 2,450 | 2,450 | 2,450 | 2,450 | 2,450 | 1,125 | 2,446 | 2,446 | 2,446 | 2,446 |
| Chicago, Rock Island & Pacific | 9 mos. | 1,616 | 2,124 | 144 | 2,738 | 2,991 | 2,991 | 1,451 | 2,450 | 2,450 | 2,450 | 2,450 | 2,450 | 2,450 | 1,125 | 2,446 | 2,446 | 2,446 | 2,446 |
| Chicago, Rock Island & Pacific | 9 mos. | 1,616 | 2,124 | 144 | 2,738 | 2,991 | 2,991 | 1,451 | 2,450 | 2,450 | 2,450 | 2,450 | 2,450 | 2,450 | 1,125 | 2,446 | 2,446 | 2,446 | 2,446 |
| Colorado, Rock Island & Pacific | 9 mos. | 1,616 | 2,124 | 144 | 2,738 | 2,991 | 2,991 | 1,451 | 2,450 | 2,450 | 2,450 | 2,450 | 2,450 | 2,450 | 1,125 | 2,446 | 2,446 | 2,446 | 2,446 |
| Colorado, Rock Island & Pacific | 9 mos. | 1,616 | 2,124 | 144 | 2,738 | 2,991 | 2,991 | 1,451 | 2,450 | 2,450 | 2,450 | 2,450 | 2,450 | 2,450 | 1,125 | 2,446 | 2,446 | 2,446 | 2,446 |
| Colorado, Rock Island & Pacific | 9 mos. | 1,616 | 2,124 | 144 | 2,738 | 2,991 | 2,991 | 1,451 | 2,450 | 2,450 | 2,450 | 2,450 | 2,450 | 2,450 | 1,125 | 2,446 | 2,446 | 2,446 | 2,446 |
| Colorado, Rock Island & Pacific | 9 mos. | 1,616 | 2,124 | 144 | 2,738 | 2,991 | 2,991 | 1,451 | 2,450 | 2,450 | 2,450 | 2,450 | 2,450 | 2,450 | 1,125 | 2,446 | 2,446 | 2,446 | 2,446 |
| Colorado, Rock Island & Pacific | 9 mos. | 1,616 | 2,124 | 144 | 2,738 | 2,991 | 2,991 | 1,451 | 2,450 | 2,450 | 2,450 | 2,450 | 2,450 | 2,450 | 1,125 | 2,446 | 2,446 | 2,446 | 2,446 |
| Colorado, Rock Island & Pacific | 9 mos. | 1,616 | 2,124 | 144 | 2,738 | 2,991 | 2,991 | 1,451 | 2,450 | 2,450 | 2,450 | 2,450 | 2,450 | 2,450 | 1,125 | 2,446 | 2,446 | 2,446 | 2,446 |
| Colorado, Rock Island & Pacific | 9 mos. | 1,616 | 2,124 | 144 | 2,738 | 2,991 | 2,991 | 1,451 | 2,450 | 2,450 | 2,450 | 2,450 | 2,450 | 2,450 | 1,125 | 2,446 | 2,446 | 2,446 | 2,446 |
| Colorado, Rock Island & Pacific | 9 mos. | 1,616 | 2,124 | 144 | 2,738 | 2,991 | 2,991 | 1,451 | 2,450 | 2,450 | 2,450 | 2,450 | 2,450 | 2,450 | 1,125 | 2,446 | 2,446 | 2,446 | 2,446 |
| Colorado, Rock Island & Pacific | 9 mos. | 1,616 | 2,124 | 144 | 2,738 | 2,991 | 2,991 | 1,451 | 2,450 | 2,450 | 2,450 | 2,450 | 2,450 | 2,450 | 1,125 | 2,446 | 2,446 | 2,446 | 2,446 |
| Colorado, Rock Island & Pacific | 9 mos. | 1,616 | 2,124 | 144 | 2,738 | 2,991 | 2,991 | 1,451 | 2,450 | 2,450 | 2,450 | 2,450 | 2,450 | 2,450 | 1,125 | 2,446 | 2,446 | 2,446 | 2,446 |
| Colorado, Rock Island & Pacific | 9 mos. | 1,616 | 2,124 | 144 | 2,738 | 2,991 | 2,991 | 1,451 | 2,450 | 2,450 | 2,450 | 2,450 | 2,450 | 2,450 | 1,125 | 2,446 | 2,446 | 2,446 | 2,446 |
| Colorado, Rock Island & Pacific | 9 mos. | 1,616 | 2,124 | 144 | 2,738 | 2,991 | 2,991 | 1,451 | 2,450 | 2,450 | 2,450 | 2,450 | 2,450 | 2,450 | 1,125 | 2,446 | 2,446 | 2,446 | 2,446 |
| Colorado, Rock Island & Pacific | 9 mos. | 1,616 | 2,124 | 144 | 2,738 | 2,991 | 2,991 | 1,451 | 2,450 | 2,450 | 2,450 | 2,450 | 2,450 | 2,450 | 1,125 | 2,446 | 2,446 | 2,446 | 2,446 |
| Colorado, Rock Island & Pacific | 9 mos. | 1,616 | 2,124 | 144 | 2,738 | 2,991 | 2,991 | 1,451 | 2,450 | 2,450 | 2,450 | 2,450 | 2,450 | 2,450 | 1,125 | 2,446 | 2,446 | 2,446</td | |

RAILWAY AGE WORKBOOK

REVENUES AND EXPENSES OF RAILWAYS

(Dollar figures are stated in thousands; i.e., with last three digits omitted)

MONTH OF SEPTEMBER AND NINE MONTHS OF CALENDAR YEAR 1956

| Name of Road | Operating Expenses — | | | | | | | | | | | | Operating Expenses — | | | | | | | | | | | | |
|--------------------------------|--|---------|-------|------------------------|--------|---------|------------------------|--------|-------------|------------|---------|--------|----------------------|-------------|--------|-----------------|---------|--------|-------------|-----------------|-----------------------|-------------------------|--------|--------|------|
| | Main, Way and Structures | | | Main, Equipment Dep't. | | | Dep't. and Retirements | | | Total 1955 | | | Total 1956 | | | Transpor-tation | | | Total 1956 | | | Operating Ratio — | | | |
| | Average mileage operated during period | Freight | Pass. | Total (inc. misc.) | Total | Freight | Pass. | Total | Retirements | Total | Freight | Pass. | Total | Retirements | Total | Traffic | Portion | Total | Railway Tax | Net Railway Tax | Operating Income 1955 | Operating Accruals 1956 | | | |
| Colorado & Wyoming | 40 | 214 | ... | 357 | 2329 | 23 | 28 | 35 | 23 | 11 | 14 | 984 | 1,616 | 1,616 | 174 | 192 | 52,8 | 59,5 | 60,6 | 1,697 | 91 | 73 | 66 | | |
| Delaware & Hudson | 771 | 3,430 | 4,466 | 4,777 | 2,744 | 583 | 563 | 19 | 278 | 100 | 14 | 1,652 | 3,176 | 3,176 | 65,1 | 64,3 | 570 | 422 | 468 | 1,697 | 793 | 833 | 1,24 | | |
| Delaware, Lackawanna & Western | 962 | 6,047 | 7,451 | 42,572 | 38,905 | 4,811 | 4,669 | 120 | 6,250 | 6,555 | 1,565 | 848 | 14,73 | 28,556 | 27,908 | 67,1 | 67,9 | 14,016 | 14,016 | 14,016 | 7,911 | 7,911 | 7,911 | 7,523 | |
| Denver & Rio Grande Western | 962 | 53,095 | 7,224 | 66,297 | 61,655 | 7,567 | 1,893 | 1,57 | 1,048 | 2,300 | 3,300 | 1,300 | 3,523 | 6,769 | 8,09 | 100,7 | 11,553 | 4,168 | 8,49 | 8,49 | —805 | —805 | —805 | —805 | |
| Detroit & Toledo Shore Line | 464 | 1,477 | 1,557 | 1,776 | 1,520 | 1,892 | 1,252 | 1,252 | 1,252 | 1,252 | 1,252 | 1,252 | 1,252 | 1,252 | 1,252 | 1,252 | 1,252 | 1,252 | 1,252 | 1,252 | 1,252 | 1,252 | 1,252 | | |
| Duluth, Minn. & Iron Range | 569 | 5,839 | 2 | 7,077 | 7,579 | 717 | 734 | 83 | 986 | 901 | 295 | 1,137 | 2,152 | 56,3 | 56,4 | 4,338 | 4,271 | 56,3 | 56,4 | 3,369 | 1,727 | 1,594 | 1,573 | | |
| Duluth, South Shore & Atlantic | 544 | 27,164 | 9 | 51,537 | 59,285 | 722 | 658 | 868 | 876 | 846 | 2,540 | 1,913 | 1,737 | 38,429 | 36,123 | 64,8 | 63,2 | 20,356 | 16,331 | 10,876 | 10,731 | 10,731 | 10,731 | | |
| Duluth, Winnipeg & Pacific | 546 | 5,909 | 35 | 6,263 | 5,848 | 1,249 | 95 | 3 | 559 | 71 | 24 | 18 | 196 | 2,089 | 4,978 | 4,728 | 67,9 | 67,9 | 62,8 | 62,8 | 62,8 | 62,8 | 62,8 | 62,8 | |
| Erie | 175 | 5,107 | 8 | 5,169 | 4,788 | 672 | 599 | 40 | 693 | 679 | 19 | 53 | 401 | 3,045 | 1,241 | 66,9 | 67,9 | 5,59 | 5,59 | 5,59 | 5,59 | 5,59 | 5,59 | 5,59 | 5,59 |
| Florida East Coast | 571 | 1,974 | 2,312 | 4,308 | 2,426 | 2,019 | 15,354 | 1,354 | 1,354 | 1,354 | 1,354 | 1,354 | 1,354 | 1,354 | 1,354 | 1,354 | 1,354 | 1,354 | 1,354 | 1,354 | 1,354 | 1,354 | 1,354 | | |
| Georgia Railroad | 321 | 6,099 | 20 | 7,008 | 7,310 | 2,511 | 3,631 | 3,394 | 407 | 4,389 | 4,42 | 1,146 | 1,146 | 1,146 | 1,146 | 1,146 | 1,146 | 1,146 | 1,146 | 1,146 | 1,146 | 1,146 | 1,146 | | |
| Georgia & Florida | 326 | 3,634 | ... | 4,640 | 4,413 | 227 | 240 | 32 | 717 | 717 | 4,056 | 1,137 | 1,137 | 1,137 | 1,137 | 1,137 | 1,137 | 1,137 | 1,137 | 1,137 | 1,137 | 1,137 | 1,137 | | |
| Grand Trunk Western | 951 | 41,034 | 2,125 | 46,694 | 45,807 | 6,174 | 5,481 | 603 | 8,688 | 7,674 | 846 | 736 | 10,240 | 19,917 | 19,917 | 19,917 | 19,917 | 19,917 | 19,917 | 19,917 | 19,917 | 19,917 | 19,917 | 19,917 | |
| Illinois Central | 6,503 | 21,084 | 1,775 | 24,944 | 24,944 | 1,775 | 27,763 | 27,763 | 27,763 | 27,763 | 27,763 | 27,763 | 27,763 | 27,763 | 27,763 | 27,763 | 27,763 | 27,763 | 27,763 | 27,763 | 27,763 | 27,763 | 27,763 | | |
| Illinois Terminal | 327 | 3,838 | ... | 3,851 | 3,584 | ... | 3,73 | 87 | 87 | 87 | 87 | 273 | 255 | 102 | 286 | 85 | 863 | 18,262 | 18,175 | 73,2 | 72,1 | 6,966 | 3,673 | 2,515 | |
| Kansas City Southern | 891 | 31,785 | 922 | 35,738 | 33,692 | 6,214 | 9,095 | 9,455 | 690 | 11,762 | 11,762 | 2,595 | 2,595 | 2,595 | 2,595 | 2,595 | 2,595 | 2,595 | 2,595 | 2,595 | 2,595 | 2,595 | 2,595 | 2,595 | |
| Kansas, Oklahoma & Gulf | 327 | 3,838 | ... | 3,851 | 3,584 | ... | 3,73 | 87 | 87 | 87 | 87 | 273 | 255 | 11 | 25 | 11 | 249 | 216 | 65,6 | 65,6 | 65,6 | 65,6 | 65,6 | 65,6 | |
| Lake Superior & Ishpeming | 149 | 697 | ... | 765 | 865 | 65 | 60 | 7 | 57 | 54 | 18 | 140 | 342 | 342 | 342 | 342 | 342 | 342 | 342 | 342 | 342 | 342 | 342 | 342 | |
| Lakefield & Madison | 96 | 2,477 | ... | 3,729 | 4,443 | 518 | 507 | 63 | 1,278 | 2,012 | 1,673 | 368 | 3,008 | 3,008 | 3,008 | 3,008 | 3,008 | 3,008 | 3,008 | 3,008 | 3,008 | 3,008 | 3,008 | 3,008 | |
| Louisiana & Arkansas | 748 | 19,529 | 439 | 20,971 | 21,021 | 2,166 | 2,231 | 105 | 111 | 6 | 216 | 230 | 52 | 52 | 52 | 52 | 52 | 52 | 52 | 52 | 52 | 52 | 52 | 52 | |

RAILWAY AGE WORKBOOK PAGE

REVENUES AND EXPENSES OF RAILWAYS

(Dollar figures are stated in thousands; i.e., with last three digits omitted)

MONTH OF SEPTEMBER AND NINE MONTHS OF CALENDAR YEAR 1956

| Name of Road | Operating Expenses | | | | | | | | | | | | Operating Expenses | | | | | | | | | | | | | | | | | | | |
|---|---------------------------|---------|--------|--------|---------|--------|-------------|--------|--------|--------|-------------|--------|--------------------|---------|-------------|--------|---------|--------|-------------|--------|---------------------------|-------|-------------|--------|---------|--------|-------------|-------|-------|-------|-------|-------|
| | Maint. Way and Structures | | | | Deprec. | | | | | | | | Maint. Equipment | | | | Deprec. | | | | Maint. Way and Structures | | | | Deprec. | | | | | | | |
| | Total | Freight | Pass. | Total | 1956 | 1955 | Retirements | Total | 1956 | 1955 | Retirements | Total | 1956 | 1955 | Retirements | Total | 1956 | 1955 | Retirements | Total | 1956 | 1955 | Retirements | Total | 1956 | 1955 | Retirements | | | | | |
| Louisville & Nashville | 4,731 | 14,974 | 7,795 | 16,867 | 1956 | 1955 | 2,515 | 484 | 4,199 | 3,355 | 1,379 | 3,057 | 6,175 | 13,940 | 13,019 | 826 | 73,8 | 2,327 | 2,316 | 2,035 | 73,8 | 2,327 | 2,316 | 2,035 | 1956 | 1955 | 1955 | | | | | |
| Maine Central | 9 mos. | 944 | 1,921 | 102 | 2,163 | 2,065 | 2,059 | 442 | 27 | 404 | 361 | 2,059 | 58,048 | 123,125 | 100,214 | 79,4 | 7,0 | 32,125 | 22,351 | 20,300 | 20,140 | 7,0 | 32,125 | 22,351 | 20,300 | 20,140 | 1956 | 1955 | 1955 | | | |
| Minneapolis & St. Louis | 9 mos. | 1,635 | 899 | 20,729 | 17,733 | 19,739 | 3,919 | 3,788 | 242 | 3,393 | 3,060 | 698 | 214 | 7,832 | 15,784 | 14,480 | 7,73 | 4,753 | 2,238 | 1,969 | 1,682 | 7,73 | 4,753 | 2,238 | 1,969 | 1,682 | 1956 | 1955 | 1955 | | | |
| Minn., Northfield & Southern | 9 mos. | 1,597 | 1,614 | 66 | 16,027 | 15,619 | 2,275 | 2,521 | 2,520 | 2,492 | 695 | 869 | 5,466 | 12,355 | 12,160 | 7,71 | 7,79 | 3,592 | 2,022 | 1,445 | 1,445 | 1,445 | 1,445 | 1,445 | 1,445 | 1,445 | 1,445 | 1,445 | 1,445 | 1,445 | | |
| Minn., St. Paul & S. Ste. Marie | 9 mos. | 3,241 | 4,191 | 3,312 | 3,190 | 2,033 | 330 | 1,785 | 1,785 | 1,785 | 1,785 | 1,785 | 1,023 | 251 | 2,416 | 4,743 | 4,961 | 79,8 | 78,6 | 1,172 | 4,444 | 1,193 | 9,4 | 9,77 | 1,172 | 4,444 | 1,193 | 9,4 | 9,77 | 1,172 | 4,444 | 1,193 |
| Missouri Pacific | 9 mos. | 3,223 | 3,168 | 7,722 | 35,510 | 30,195 | 7,885 | 6,371 | 5,506 | 5,506 | 5,506 | 5,506 | 1,023 | 251 | 2,416 | 4,743 | 4,961 | 79,8 | 78,6 | 1,172 | 4,444 | 1,193 | 9,4 | 9,77 | 1,172 | 4,444 | 1,193 | 9,4 | 9,77 | 1,172 | 4,444 | 1,193 |
| Monon, Illinois | 9 mos. | 1,722 | 4,282 | 553 | 4,294 | 4,313 | 4,313 | 556 | 560 | 560 | 560 | 560 | 1,023 | 251 | 2,416 | 4,743 | 4,961 | 79,8 | 78,6 | 1,172 | 4,444 | 1,193 | 9,4 | 9,77 | 1,172 | 4,444 | 1,193 | 9,4 | 9,77 | 1,172 | 4,444 | 1,193 |
| Missouri-Kansas-Texas Lines | 9 mos. | 3,241 | 4,262 | 2,233 | 6,309 | 6,306 | 5,946 | 5,233 | 5,233 | 5,233 | 5,233 | 5,233 | 1,023 | 251 | 2,416 | 4,743 | 4,961 | 79,8 | 78,6 | 1,172 | 4,444 | 1,193 | 9,4 | 9,77 | 1,172 | 4,444 | 1,193 | 9,4 | 9,77 | 1,172 | 4,444 | 1,193 |
| Missouri Pacific | 9 mos. | 3,223 | 3,168 | 7,722 | 35,510 | 30,195 | 7,885 | 6,371 | 5,506 | 5,506 | 5,506 | 5,506 | 1,023 | 251 | 2,416 | 4,743 | 4,961 | 79,8 | 78,6 | 1,172 | 4,444 | 1,193 | 9,4 | 9,77 | 1,172 | 4,444 | 1,193 | 9,4 | 9,77 | 1,172 | 4,444 | 1,193 |
| Monon | 9 mos. | 1,722 | 4,282 | 553 | 4,294 | 4,313 | 4,313 | 556 | 560 | 560 | 560 | 560 | 1,023 | 251 | 2,416 | 4,743 | 4,961 | 79,8 | 78,6 | 1,172 | 4,444 | 1,193 | 9,4 | 9,77 | 1,172 | 4,444 | 1,193 | 9,4 | 9,77 | 1,172 | 4,444 | 1,193 |
| Monongahela | 9 mos. | 1,777 | 565 | 569 | 449 | 755 | 70 | 569 | 149 | 525 | 525 | 525 | 1,023 | 251 | 2,416 | 4,743 | 4,961 | 79,8 | 78,6 | 1,172 | 4,444 | 1,193 | 9,4 | 9,77 | 1,172 | 4,444 | 1,193 | 9,4 | 9,77 | 1,172 | 4,444 | 1,193 |
| Nash., Chatt. & St. Louis | 9 mos. | 1,043 | 2,268 | 101 | 4,750 | 4,236 | 4,236 | 4,236 | 4,236 | 4,236 | 4,236 | 4,236 | 1,023 | 251 | 2,416 | 4,743 | 4,961 | 79,8 | 78,6 | 1,172 | 4,444 | 1,193 | 9,4 | 9,77 | 1,172 | 4,444 | 1,193 | 9,4 | 9,77 | 1,172 | 4,444 | 1,193 |
| New York Central | 9 mos. | 1,043 | 22,745 | 1,123 | 26,632 | 20,906 | 4,272 | 3,715 | 3,715 | 3,715 | 3,715 | 3,715 | 1,023 | 251 | 2,416 | 4,743 | 4,961 | 79,8 | 78,6 | 1,172 | 4,444 | 1,193 | 9,4 | 9,77 | 1,172 | 4,444 | 1,193 | 9,4 | 9,77 | 1,172 | 4,444 | 1,193 |
| Pittsburgh & Lake Erie | 9 mos. | 1,043 | 2,268 | 101 | 4,750 | 4,236 | 4,236 | 4,236 | 4,236 | 4,236 | 4,236 | 4,236 | 1,023 | 251 | 2,416 | 4,743 | 4,961 | 79,8 | 78,6 | 1,172 | 4,444 | 1,193 | 9,4 | 9,77 | 1,172 | 4,444 | 1,193 | 9,4 | 9,77 | 1,172 | 4,444 | 1,193 |
| New York Central | 9 mos. | 1,043 | 22,745 | 1,123 | 26,632 | 20,906 | 4,272 | 3,715 | 3,715 | 3,715 | 3,715 | 3,715 | 1,023 | 251 | 2,416 | 4,743 | 4,961 | 79,8 | 78,6 | 1,172 | 4,444 | 1,193 | 9,4 | 9,77 | 1,172 | 4,444 | 1,193 | 9,4 | 9,77 | 1,172 | 4,444 | 1,193 |
| New York, Chicago & St. Louis | 9 mos. | 1,043 | 2,268 | 101 | 4,750 | 4,236 | 4,236 | 4,236 | 4,236 | 4,236 | 4,236 | 4,236 | 1,023 | 251 | 2,416 | 4,743 | 4,961 | 79,8 | 78,6 | 1,172 | 4,444 | 1,193 | 9,4 | 9,77 | 1,172 | 4,444 | 1,193 | 9,4 | 9,77 | 1,172 | 4,444 | 1,193 |
| New York, New Haven & Hartford | 9 mos. | 1,043 | 2,268 | 101 | 4,750 | 4,236 | 4,236 | 4,236 | 4,236 | 4,236 | 4,236 | 4,236 | 1,023 | 251 | 2,416 | 4,743 | 4,961 | 79,8 | 78,6 | 1,172 | 4,444 | 1,193 | 9,4 | 9,77 | 1,172 | 4,444 | 1,193 | 9,4 | 9,77 | 1,172 | 4,444 | 1,193 |
| New York Connecting | 9 mos. | 221 | 28,327 | 549 | 3,837 | 3,714 | 3,714 | 3,714 | 3,714 | 3,714 | 3,714 | 3,714 | 1,023 | 251 | 2,416 | 4,743 | 4,961 | 79,8 | 78,6 | 1,172 | 4,444 | 1,193 | 9,4 | 9,77 | 1,172 | 4,444 | 1,193 | 9,4 | 9,77 | 1,172 | 4,444 | 1,193 |
| New York, Ontario & Western | 9 mos. | 211 | 13,794 | 173 | 1,451 | 1,059 | 1,059 | 1,059 | 1,059 | 1,059 | 1,059 | 1,059 | 1,023 | 251 | 2,416 | 4,743 | 4,961 | 79,8 | 78,6 | 1,172 | 4,444 | 1,193 | 9,4 | 9,77 | 1,172 | 4,444 | 1,193 | 9,4 | 9,77 | 1,172 | 4,444 | 1,193 |
| New York, Susquehanna & Western | 9 mos. | 341 | 13,200 | 1,410 | 18,842 | 11,296 | 11,296 | 11,296 | 11,296 | 11,296 | 11,296 | 11,296 | 1,023 | 251 | 2,416 | 4,743 | 4,961 | 79,8 | 78,6 | 1,172 | 4,444 | 1,193 | 9,4 | 9,77 | 1,172 | 4,444 | 1,193 | 9,4 | 9,77 | 1,172 | 4,444 | 1,193 |
| Norfolk & Western | 9 mos. | 1,763 | 7,251 | 7,251 | 14,043 | 13,497 | 13,497 | 13,497 | 13,497 | 13,497 | 13,497 | 13,497 | 1,023 | 251 | 2,416 | 4,743 | 4,961 | 79,8 | 78,6 | 1,172 | 4,444 | 1,193 | 9,4 | 9,77 | 1,172 | 4,444 | 1,193 | 9,4 | 9,77 | 1,172 | 4,444 | 1,193 |
| New York Connecting | 9 mos. | 21 | 2,977 | 341 | 3,303 | 3,221 | 3,221 | 3,221 | 3,221 | 3,221 | 3,221 | 3,221 | 1,023 | 251 | 2,416 | 4,743 | 4,961 | 79,8 | 78,6 | 1,172 | 4,444 | 1,193 | 9,4 | 9,77 | 1,172 | 4,444 | 1,193 | 9,4 | 9,77 | 1,172 | 4,444 | 1,193 |
| New York, Ontario & Western | 9 mos. | 541 | 422 | 437 | 552 | 4,287 | 4,287 | 4,287 | 4,287 | 4,287 | 4,287 | 4,287 | 1,023 | 251 | 2,416 | 4,743 | 4,961 | 79,8 | 78,6 | 1,172 | 4,444 | 1,193 | 9,4 | 9,77 | 1,172 | 4,444 | 1,193 | 9,4 | 9,77 | 1,172 | 4,444 | 1,193 |
| New York, Susquehanna & Western Lines | 9 mos. | 341 | 4,124 | 4,261 | 4,261 | 1,057 | 1,057 | 1,057 | 1,057 | 1,057 | 1,057 | 1,057 | 1,023 | 251 | 2,416 | 4,743 | 4,961 | 79,8 | 78,6 | 1,172 | 4,444 | 1,193 | 9,4 | 9,77 | 1,172 | 4,444 | 1,193 | 9,4 | 9,77 | 1,172 | 4,444 | 1,193 |
| Northern Pacific | 9 mos. | 341 | 347 | 40 | 406 | 422 | 422 | 422 | 422 | 422 | 422 | 422 | 1,023 | 251 | 2,416 | 4,743 | 4,961 | 79,8 | 78,6 | 1,172 | 4,444 | 1,193 | 9,4 | 9,77 | 1,172 | 4,444 | 1,193 | 9,4 | 9,77 | 1,172 | 4,444 | 1,193 |
| Norfolk & Western | 9 mos. | 21 | 2,977 | 341 | 3,303 | 3,221 | 3,221 | 3,221 | 3,221 | 3,221 | 3,221 | 3,221 | 1,023 | 251 | 2,416 | 4,743 | 4,961 | 79,8 | 78,6 | 1,172 | 4,444 | 1,193 | 9,4 | 9,77 | 1,172 | 4,444 | 1,193 | 9,4 | 9,77 | 1,172 | 4,444 | 1,193 |
| Northern Pacific | 9 mos. | 341 | 347 | 349 | 389 | 3,887 | 4,388 | 4,388 | 4,388 | 4,388 | 4,388 | 4,388 | 1,023 | 251 | 2,416 | 4,743 | 4,961 | 79,8 | 78,6 | 1,172 | 4,444 | 1,193 | 9,4 | 9,77 | 1,172 | 4,444 | 1,193 | 9,4 | 9,77 | 1,172 | 4,444 | 1,193 |
| Northwestern Pacific | 9 mos. | 329 | 1,116 | 6 | 1,141 | 1,141 | 1,141 | 1,141 | 1,141 | 1,141 | 1,141 | 1,141 | 1,023 | 251 | 2,416 | 4,743 | 4,961 | 79,8 | 78,6 | 1,172 | 4,444 | 1,193 | 9,4 | 9,77 | 1,172 | 4,444 | 1,193 | 9,4 | 9,77 | 1,172 | 4,444 | 1,193 |
| Pennsylvania | 9 mos. | 329 | 9,712 | 30 | 9,889 | 11,213 | 1,802 | 1,802 | 1,802 | 1,802 | 1,802 | 1,802 | 1,023 | 251 | 2,416 | 4,743 | 4,961 | 79,8 | 78,6 | 1,172 | 4,444 | 1,193 | 9,4 | 9,77 | 1,172 | 4,444 | 1,193 | 9,4 | 9,77 | 1,172 | 4,444 | 1,193 |
| Pennsylvania | 9 mos. | 10,006 | 6,4510 | 6,824 | 6,824 | 8,2703 | 8,1016 | 8,1016 | 8,1016 | 8,1016 | 8,1016 | 8,1016 | 1,023 | 251 | 2,416 | 4,743 | 4,961 | 79,8 | 78,6 | 1,172 | 4,444 | 1,193 | 9,4 | 9,77 | 1,172 | 4,444 | 1,193 | 9,4 | 9,77 | 1,172 | 4,444 | 1,193 |
| Penn.-Reading Seashore Lines | 9 mos. | 358 | 1,304 | 6,769 | 7,176 | 7,176 | 7,176 | 7,176 | 7,176 | 7,176 | 7,176 | 7,176 | 1,023 | 251 | 2,416 | 4,743 | 4,961 | 79,8 | 78,6 | 1,172 | 4,444 | 1,193 | 9,4 | 9,77 | 1,172 | 4,444 | 1,193 | | | | | |

RAILWAY AGE WORKBOOK

REVENUES AND EXPENSES OF RAILWAYS

(Dollar figures are stated in thousands; i.e., with last three digits omitted)

MONTH OF SEPTEMBER AND NINE MONTHS OF CALENDAR YEAR 1956

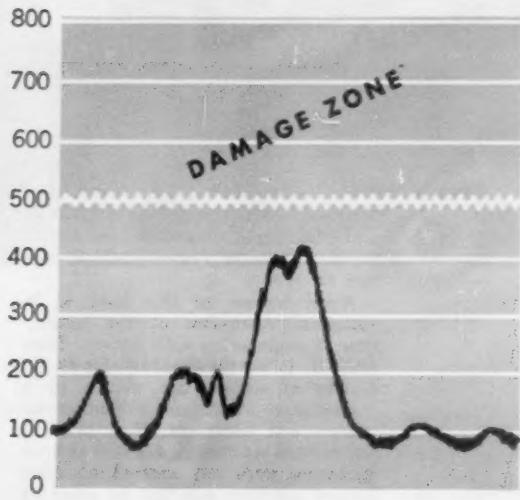
| Name of Road | Operating Revenues | | | | | | | | | | Operating Expenses | | | | | | | | | |
|--|------------------------------|---------|-------|--------|--------|--------|--------|--------|--------|--------|--------------------|-------|---------------------|--------|--------|--------|--------|--------|--------|-------|
| | Average miles operated | Freight | Pass. | Total | 1956 | 1955 | Total | 1956 | 1955 | Total | 1956 | 1955 | Trans- portation | Total | 1956 | 1955 | Total | 1956 | 1955 | |
| Rutland | 408 | 439 | 82 | 805 | 448 | 466 | 18 | 31 | 152 | 342 | 324 | 77.9 | 97 | 238 | 57 | 33 | 76.9 | 97 | 1055 | |
| Sacramento Northern | 341 | 3,365 | 3,381 | 6,735 | 798 | 705 | 87 | 460 | 458 | 233 | 1,399 | 3,172 | 2,917 | 81.1 | 82.9 | 71.0 | 2.8 | 27.8 | 157 | |
| St. Louis-San Francisco | 347 | 1,472 | 1,508 | 3,000 | 1,935 | 690 | 54 | 63 | 152 | 15 | 152 | 182 | 182 | 60.3 | 64.5 | 114 | 118 | 57.5 | 63 | |
| St. Louis, San Francisco & Texas, Sept. 9 mos. | 4,610 | 84,193 | 3,429 | 94,134 | 91,294 | 14,001 | 13,306 | 1,480 | 15,269 | 15,703 | 3,855 | 3,583 | 3,960 | 103.7 | 143.7 | 142 | 142 | 142 | 142 | |
| St. Louis, San Francisco & Texas, Sept. 9 mos. | 155 | 2,935 | 5 | 325 | 3,382 | 47 | 67 | 4 | 30 | 34 | 1 | 27 | 148 | 263 | 81.2 | 74.8 | 61 | 61 | 54 | |
| St. Louis Southwestern Lines, Sept. 9 mos. | 1,561 | 4,860 | 228 | 5,048 | 3,612 | 699 | 516 | 45 | 307 | 287 | 10 | 217 | 1,382 | 2,432 | 55.8 | 69.9 | 70.6 | 70.6 | 216 | |
| Savannah & Atlanta | 144 | 48,779 | 106 | 50,938 | 49,455 | 6,206 | 6,029 | 655 | 6,217 | 5,271 | 1,194 | 1,702 | 15,708 | 28,919 | 70.3 | 60.2 | 1,501 | 60.1 | 903 | |
| Seaboard Air Line | 144 | 2,824 | 3 | 2,944 | 2,649 | 422 | 449 | 2 | 50 | 42 | 19 | 14 | 89 | 206 | 196 | 62.5 | 18.9 | 84.7 | 8.01 | 7,964 |
| Seaboard Air Line, Sept. 9 mos. | 4,062 | 10,169 | 1,986 | 11,974 | 1,516 | 1,511 | 199 | 2,416 | 2,447 | 599 | 4,189 | 9,151 | 8,597 | 73.4 | 72.3 | 72.3 | 72.3 | 72.3 | 72.3 | |
| Southern Railway | 6,289 | 19,318 | 1,143 | 22,492 | 22,492 | 11,134 | 16,840 | 1,687 | 17,69 | 22,720 | 22,646 | 335 | 3,540 | 46,677 | 89,520 | 82,362 | 12,286 | 14,179 | 2,055 | |
| Alabama Great Southern | 326 | 1,224 | 1,196 | 2,012 | 2,057 | 1,06 | 2,061 | 2,053 | 2,042 | 2,068 | 3,635 | 3,417 | 3,417 | 5,342 | 5,342 | 66.5 | 62.4 | 1,860 | 1,860 | |
| New Orleans & Texas Pec. Sept. 9 mos. | 326 | 11,950 | 542 | 13,544 | 15,625 | 2,233 | 2,142 | 342 | 2,142 | 2,733 | 539 | 331 | 4,109 | 10,255 | 10,403 | 75.7 | 75.7 | 1,703 | 1,703 | |
| Cinc., New Orleans & Texas Pec., Sept. 9 mos. | 337 | 3,242 | 116 | 3,603 | 3,603 | 583 | 554 | 78 | 575 | 614 | 146 | 146 | 2,301 | 2,222 | 64.7 | 61.6 | 1,255 | 69.7 | 781 | |
| Georgia Southern & Florida, Sept. 9 mos. | 475 | 614 | 37 | 3,021 | 3,242 | 3,526 | 4,030 | 601 | 573 | 1,310 | 704 | 8,127 | 21,059 | 66.0 | 57.8 | 11,051 | 6,003 | 6,074 | 5,113 | |
| New Orleans & Northeastern, Sept. 9 mos. | 204 | 963 | 37 | 3,888 | 520 | 765 | 795 | 1,994 | 2,111 | 91 | 174 | 2,156 | 539 | 88 | 236 | 1,124 | 37 | 40 | 3,37 | |
| Southern Pacific | 337 | 39,304 | 2,424 | 44,308 | 45,055 | 5,473 | 5,982 | 541 | 9,767 | 10,107 | 2,077 | 898 | 18,116 | 36,393 | 37,587 | 82.1 | 83.4 | 75,771 | 39,099 | |
| Texas & New Orleans | 4,298 | 10,245 | 4,298 | 10,470 | 11,336 | 50,032 | 49,399 | 4,396 | 87,398 | 82,032 | 18,266 | 8,145 | 16,2,380 | 33,822 | 81.2 | 87.5 | 75,771 | 32,129 | 38,846 | |
| Spokane International | 1,50 | 315 | 3 | 328 | 3,603 | 5,556 | 1,486 | 1,501 | 1,521 | 1,617 | 1,617 | 2,611 | 4,146 | 8,669 | 9,658 | 76.5 | 82.7 | 1,110 | 552 | |
| Spokane, Portland & Seattle, Sept. 9 mos. | 947 | 2,655 | 85 | 2,892 | 3,108 | 3,587 | 4,419 | 49 | 400 | 114 | 5,662 | 6,000 | 2,317 | 8,078 | 80,528 | 76,381 | 77.7 | 77.7 | 489 | |
| Tennessee Central | 286 | 4,898 | 49 | 3,829 | 4,191 | 3,597 | 588 | 55 | 559 | 1,216 | 2,413 | 5,862 | 6,000 | 77.5 | 75.1 | 1,703 | 377 | 152 | | |
| Texas & Pacific | 1,831 | 5,400 | 330 | 6,287 | 3,844 | 10,470 | 12,237 | 19,086 | 14,993 | 21 | 2,448 | 7,113 | 5,988 | 6,529 | 50.4 | 35.9 | 239 | 140 | 254 | |
| Virginian | 1,831 | 52,044 | 3,079 | 60,168 | 59,317 | 9,856 | 9,239 | 50 | 2,233 | 2,233 | 10 | 5,661 | 2,617 | 3,797 | 80,528 | 76,381 | 77.7 | 77.7 | | |
| Texans, Portland & Seattle, Sept. 9 mos. | 161 | 2,228 | 246 | 2,339 | 57 | 66 | 50 | 49 | 400 | 114 | 32 | 895 | 1,923 | 1,916 | 73.3 | 61.6 | 958 | 501 | 550 | |
| Tennessee Central | 161 | 2,217 | 249 | 2,323 | 475 | 444 | 417 | 49 | 400 | 114 | 32 | 895 | 1,923 | 1,916 | 73.3 | 61.6 | 958 | 501 | 550 | |
| Union Pacific | 239 | 5,721 | 5,721 | 5,803 | 5,945 | 5,246 | 897 | 798 | 6 | 50 | 50 | 105 | 1,619 | 1,619 | 1,619 | 1,619 | 1,619 | 1,619 | | |
| Virginia | 294 | 7,099 | 3 | 7,260 | 6,927 | 820 | 865 | 63 | 1,095 | 1,129 | 255 | 1,713 | 9,690 | 2,239 | 5,491 | 4,829 | 79.4 | 79.4 | 447 | |
| Western Maryland | 846 | 4,098 | 4 | 4,371 | 4,223 | 618 | 557 | 51 | 773 | 664 | 227 | 2,170 | 4,970 | 42,985 | 76.4 | 72.5 | 11,198 | 4,584 | 546 | |
| Wabash, Peoria & Western, Sept. 9 mos. | 911 | 3,450 | 1 | 4,368 | 4,297 | 521 | 426 | 57 | 676 | 692 | 207 | 54 | 874 | 2,222 | 1,993 | 188.5 | 188.5 | 1,137 | | |
| Ann Arbor | 294 | 7,099 | 3 | 7,260 | 6,927 | 820 | 865 | 63 | 1,095 | 1,129 | 255 | 1,713 | 9,690 | 2,239 | 5,491 | 4,829 | 79.4 | 79.4 | 447 | |
| Western Pacific | 294 | 7,099 | 3 | 7,260 | 6,927 | 820 | 865 | 63 | 1,095 | 1,129 | 255 | 1,713 | 9,690 | 2,239 | 5,491 | 4,829 | 79.4 | 79.4 | 447 | |
| Western Pacific | 294 | 7,099 | 3 | 7,260 | 6,927 | 820 | 865 | 63 | 1,095 | 1,129 | 255 | 1,713 | 9,690 | 2,239 | 5,491 | 4,829 | 79.4 | 79.4 | 447 | |
| Wisconsin Central | 1,042 | 23,029 | 363 | 24,734 | 22,630 | 3,947 | 3,448 | 371 | 3,452 | 3,462 | 222 | 723 | 9,702 | 19,337 | 17,285 | 78.1 | 75.7 | 535 | 573 | |

Do you really want to know what causes LADING DAMAGE?

it's SHOCK!

Shock does it. Shock is something you can't see. Scientists can't even define it but the forces and rate of force-rise that cause shock can be recorded by an oscillograph.

Here is an oscillograph record of violent shock . . . the shock of impact of two loaded friction gear cars coupling at 7.53 mph. Observe that almost vertical line of force rise. It shows forces transferred to car structure almost instantaneously. That is evidence of shock. Note also that these forces are high in the damage zone.



IN CONTRAST...

This oscillogram of a Waugh Cushion Underframe Car coupling with a friction gear car at 7.57 mph shows how shock-proofing protects car and lading. Note: (1) That forces transferred to car structure do not invade the danger zone.

(2) Most important, the rate of force-rise has been substantially reduced and the impact spread over a longer period.

These are two important reasons for specifying

WAUGH **Cushion Underframe**

FOR SHOCK-PROOF PROTECTION

Waugh Equipment Company, New York, Chicago, St. Louis. Canadian Waugh Equipment Company, Ltd., Montreal

Current Publications

BOOKS

RAILROAD PASSENGER SERVICE COSTS AND FINANCIAL RESULTS, by Stanley Berge, Professor of Transportation, Northwestern University School of Commerce, Evanston, Ill. 80 pp. \$2.

This Study, which labels the passenger deficit an "accounting phantom," was reviewed in detail, prior to publication, in Railway Age of May 21, page 86. Mr. Berge worked with the Form A reports of 37 major passenger-carrying railroads, and came up with an extensive analysis of avoidable costs. He

suggests that deficits based on the ICC formula are "largely illusory and unreal." The study contains 28 pages of text material and charts, ten tables and 37 pages of statistical data relating to passenger operations on individual railroads.

SHORT LINE JUNCTION: A COLLECTION OF CALIFORNIA-NEVADA RAILROADS, by Jack R. Wagner. 266 pp., illustrations. Academy Library Guild, Fresno, Ca. \$4.75.

The story of seven small railroads in California and Nevada: the California Western; Yreka Western; McCloud River; Quincy; Sierra; Nevada Northern; and Nevada Copper Belt. The author doesn't submit this as a book

with a message, but if a message is to be read into it, it is that of free enterprise and opportunity . . . of small business in a field of giants, competition and government regulations. It is a story of towns and industries built and kept alive by tiny locomotives and the commerce they brought in from the "Junction".

PUBLIC RELATIONS OF THE RAILROAD INDUSTRY IN THE UNITED STATES: A BIBLIOGRAPHY 1868-1955, compiled by Helen R. Richardson. 146 pages. Association of American Railroads, Bureau of Railway Economics Library, Transportation bldg., Washington 6, D.C. Free

The railroads have had problems in their relations with the public since the very beginning of railroading in the United States is indicated by the material in this bibliography, which is arranged in three parts. Part I covers the introduction of railroads to the public, 1808-1869; Part II covers railroads and public relations, 1870-1955, while Part III-A is a list of railway employee magazines being received by the library of the BRE and Part III-B is a list of selected publications of the Department of Public Relations of the AAR.

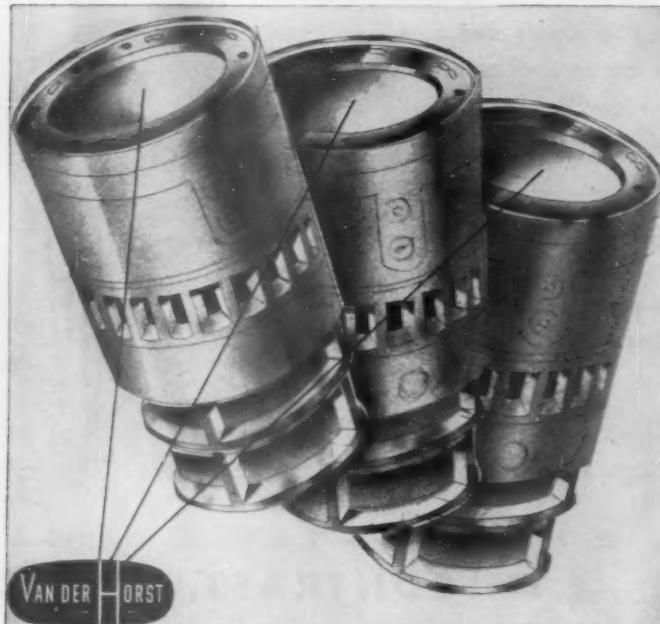
OPERATIONS RESEARCH FOR MANAGEMENT, Volume II, Case Histories, Methods, Information Handling, edited by Joseph F. McCloskey and John M. Copperger. 563 pages, drawings, charts. The Johns Hopkins Press, Homewood, Baltimore 18. \$8.

Volume One provided the first general introduction to this subject in book form. Now Volume Two brings to the executive and technical reader a wealth of up-to-date case histories, showing operations research in actual use, and detailed discussions of the newest operations research methods. In addition, there is a special section on information handling in organized groups, giving a survey of the accomplishment in a new and widely used area of research. Included in the case histories are: revision of New York's subway fare structure, and analysis of a railroad classification yard.

ENGINEERING IN HISTORY, by R. S. Kirby, S. Withington, A. B. Darling, and F. G. Kilmour. 530 pages, illustrations. McGraw-Hill Book Company, Inc., 330 W. 42nd St., New York 36. \$8.50.

Novel feature of this book is its historical discussion of the interaction of engineering with society. From 6000 B. C. to the present, this is the history of engineering, written by a combination of authors including engineers and historians. Most histories are written as though science and engineering were not affected by other human activities and had no effect on society, but this book presents the history of engineering as one of many human activities. Emphasis is placed upon the history of civil, electrical, and some aspects of metallurgical (iron and steel) and mechanical (power and transportation) engineering. Special branches such as military, (Continued on page 44)

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To learn how Alcoa Aluminum can cut costs for you on crossbucks and wayside signs, both painted and reflectorized, call your local Alcoa sales office. Or write: ALUMINUM COMPANY OF AMERICA, 2180-L Alcoa Building, Pittsburgh 19, Pa., for free literature.



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This new station isn't just beautiful . . . it's also relatively inexpensive to build. The shelter roofs are curved, preformed sheets of Alcoa Aluminum—a low-cost building material that's very light in weight and hence can take a lighter, lower cost framework. The station itself has outside panels of Alcoa Aluminum—finished in Alcoa architectural colors. You can have these colors in striking blues, grays, gold or brown. The colors don't fade or chip or peel because they're a part of the metal surface. The building

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On the Pennsylvania Railroad, aluminum paint is today the standard protection for transmission poles, catenary bridges and poles, signal bridges, telephone boxes and instrument cases. Aluminum paint is also used on undergrade and overhead bridges where appearance is an important factor. Write for free booklet, *Painting With Aluminum*.



modern right-of-way

5. Aluminum Fences never need painting

The first aluminum chain link fence, installed in 1928, is still in excellent condition. Fences made from Alcoa Aluminum resist corrosion, never need painting. They come in all types and sizes.

6. Longer life means lower sign costs

Corrosion-resistant Alcoa Aluminum for wayside signs cuts maintenance costs to the bone. You'll never need to paint the back. And even if the message film is pierced, there's no progressive rusting

to bring on peeling or flaking that destroys utility. The wide variety of available message films includes reflective sheeting, porcelain enamel, glass buttons and paint.

7. Crossbucks

8. Trouble-free, maintenance-free Signal Cases

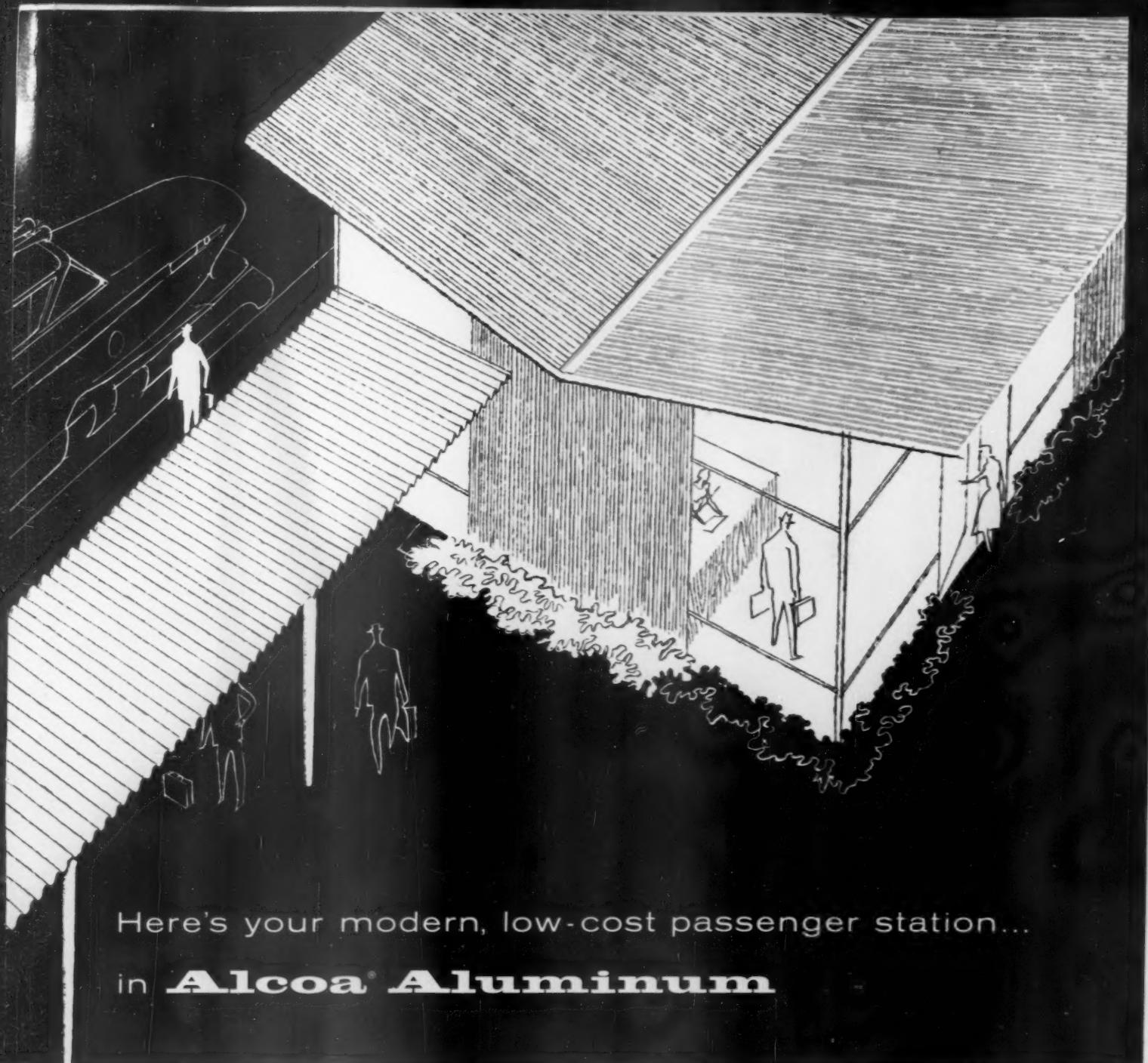
Signal cases of Alcoa Aluminum never need painting inside or out. They won't corrode; rust can't foul the circuit breakers.

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Your Guide to the Best in Aluminum Value





Here's your modern, low-cost passenger station...
in **Alcoa® Aluminum**

Here's another new station to give you ideas. This one is made from Alcoa Industrial Building Sheet—a construction which costs far less than masonry and gives you a modern, functional building.

Aluminum roofing and siding stays rust-free without painting—even in industrial atmospheres. The high reflectivity bounces heat back, keeps the station cooler in the summer, saves on fuel in the winter.

The roof is Alcoa V-beam Sheet which has great strength and thus requires fewer supporting members. The outside walls are fluted aluminum facing, available in natural aluminum or in a striking sea-green color. This new green Alodine* finish, a product of the American Chemical Paint Company, is actually part of the metal surface!

When you modernize stations or erect new buildings of *any* kind, look into Alcoa Industrial Building Sheet. Find out how little it costs, how fast the buildings go up. For literature write: ALUMINUM COMPANY OF AMERICA, 2180-L Alcoa Building, Pittsburgh 19, Pa.

* Registered Trademark of American Chemical Paint Company

Your Guide
to the Best in Aluminum Value



THE ALCOA HOUR—Television's Finest
Live Drama Alternate Sunday Evenings





Turbocharged Dozer Engine

A rubber-tired bulldozer, powered by a turbocharged diesel engine, has a 165-hp rating and a capacity of $2\frac{3}{4}$ cu yd. Known as the Michigan Model 180 Turbo-Dozer, the unit has a four-wheel drive, rear-wheel steering and an over-the-road speed of 27 mph.

The machine has a power-shift transmission, a heavy-duty torque converter which provides 3-to-1 torque multiplication and planetary wheel-drive axles. The bowl is raised and lowered by two double-acting hydraulic cylinders and is tipped back and forth by a

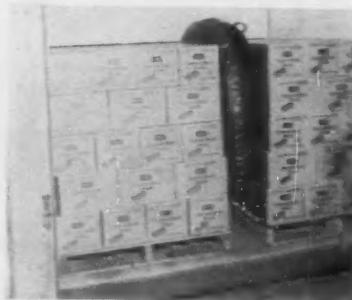
6-in. double-acting cylinder. Both ends of the blade are fitted with vertical cutting edges. Two 1½-in. holes have been provided for pusher-block mounting.

A locking differential in the front axle automatically applies power to the wheel with the firmest footing when one wheel begins to slip. The machine is equipped with a 24-volt starting system; 18 by 25 in. 12-ply high-flotation tires; vacuum-powered four-wheel brakes; two-wheel mechanical brakes; and a 50-gal fuel tank. *Construction Machinery Division, Clark Equipment Company, Dept. RA, Benton Harbor, Mich.* •

Inflatable Dunnage

A dunnage bag, made of 13 oz nylon fabric, neoprene coated, has a butyl inner tube. The deflated size is 52 by 52 in. It weighs 28 pounds. Air connections at shipping dock provide a means of inflating to the desired width after the deflated bag has been placed in position to separate the lading. The inflated bag tends to assume spherical shape, thus exerting constant pressure against the lading. In actual shipping tests it reportedly has eliminated movement and damage to critical lading even

under heavy impacts. *United States Rubber Company, Dept. RA, 10 Eagle st., Providence 1, R.I.* •



General Purpose Liquid Detergent

A concentrated liquid detergent, which contains no soap, is said to go into solution instantly, to develop copious suds in hard or soft water, hot or cold, and to loosen the most common soils in a short time. Called Oakite Liqui-Det, reportedly is safe on every type of surface.

Field reports from a variety of industries indicate it is being used, for example, on diesel cab interiors, and to remove rubber "burns" from fork-lift tires on concrete. *Oakite Products, Inc., Dept. RA, 157 Rector st., New York 6* •



Sealed Beam Loading Light

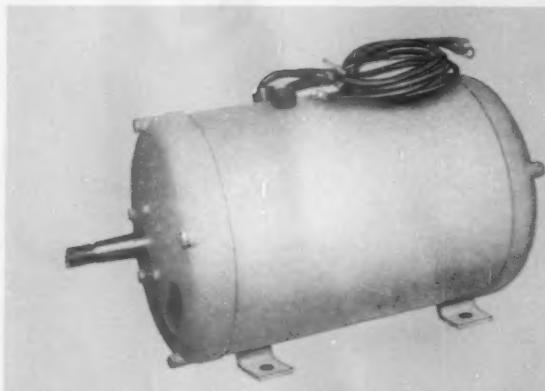
This loading light, with a sealed beam lamp, is said to project a concentrated, high-density light beam into the far depths of freight cars or highway trailers at loading docks. Available in long or short sizes for varying mounting requirements, the light takes a 150-watt sealed flood or spot lamp in an aluminum alloy housing. It is a companion product to the standard wire-guard-type lamp used for general illumination inside freight cars and trailers.—*Pyle National Company, Dept. RA, 1364 North Kostner ave., Chicago 53*. •

SPECIFY "Safety's" NEW 1.5KW...14 Volt CABOOSE GENERATOR

...with these special features...

- two phase AC generator
- no brushes
- no commutator
- no slip rings
- extremely wide speed range

**For THE MOST
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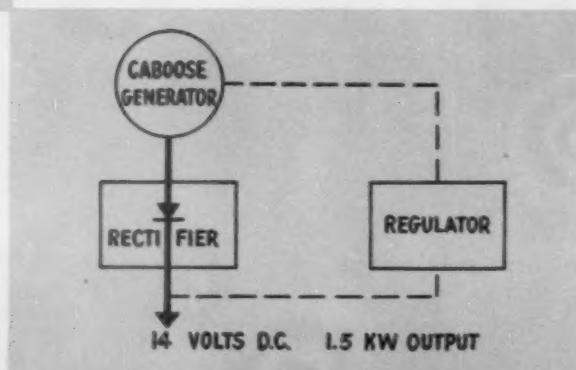


Full output of the generator can be obtained at extremely low car speeds with any of the following drives:

- "Spicer" end-of-axle drive
- "Safety" V-belt drive
- "Safety" flat belt drive
- "Hydraulic" type drive

Operating characteristics of the new 1.5KW, 14 volt Caboose Generator are as follows:

| | |
|---------------------------------|----------|
| ● cut-in speed..... | 700 RPM |
| ● minimum full-load speed | 1500 RPM |
| ● maximum speed..... | 7000 RPM |
| ● ratio..... | 10:1 |



The complete "Safety" Caboose Generator Line includes equipment in capacities from 1.5KW to 5KW ... 14 and 40 volts. A complete line of heavy duty lighting fixtures for Caboose applications is also available.

SAFETY INDUSTRIES, INC.

FORMERLY THE SAFETY CAR HEATING & LIGHTING COMPANY, INC.

NEW YORK • CHICAGO • PHILADELPHIA • RICHMOND • ST. LOUIS • SAN FRANCISCO • NEW HAVEN • MONTREAL

"SAFETY" PRODUCTS INCLUDE: Air-conditioning Equipment • Genemotors • Generators • Fans • Regulators • Blower Units
Lighting Fixtures • Switchboards • Luggage Racks • Motor Alternators • Dynamotors • Motor Generators • Dual Voltage MG Sets

Traffic Growth Won't Be Automatic

A research report published by the Railway Progress Institute predicts an increase of 40 per cent in railway freight traffic by 1965 (our November 19 issue, page 13). This forecast is in essential harmony with that of President J. M. Symes of the Pennsylvania in a comprehensive interview which appeared in U.S. News and World Report a few months ago. It also comes close to the prediction made by Chairman C. F. Roos of the Econometric Institute in the Centennial Issue of this paper, last September.

The argument for trustworthiness is pretty strong when able analysts, each in his own way, arrive at such nearly identical conclusions. Nevertheless—any forecaster would readily admit—long-range predictions are always subject to revision if new and unforeseen factors arise. If some presently favorable factors (e.g., comprehensive research of the transportation market by the railroads) should be intensified, estimates of future traffic growth would have to be revised upward.

It is clear enough that the railroads have much better than an even chance for growth and prosperity. But it is an opportunity, not a certainty, that confronts them.

The chances in their favor can be greatly augmented by intensive attention on their part to the factors which would favor their growth. For example, their outlook will improve if they can persuade the regulatory and legislative authorities to reduce the inequalities in governmental dealing with the various methods of transportation. Also productive of a better-than-predictable outlook for prosperity would be maximum effort to apply the best available methods and equipment. This goal, of course, can be fully achieved only if organized labor shows a realistic willingness to minimize practices which handicap the railroads' competitive economy.

Most Important Steps

Among the many steps the railroads can take to make optimistic forecasts of traffic growth turn out to be conservative, the following are certainly high on the list:

- Providing freight cars adequate to the demands of traffic.
- Finding out in detail what the major movements of freight traffic are; what proportion of each movement goes to each form of transportation; and what the comparative handling costs of each type are. With this information, railroad rates can be adjusted, as costs per-

mit, to attract all the tonnage that the railroads can handle economically, and to divert to other agencies that traffic to which railroads are not well adapted.

- Making railroad service as rapid as retention of mass-production methods allow—with a maximum of dependability.

- Installing the best tools and methods that "the state of the art" permits, and that available funds can finance.

- "Rationalizing" the passenger service—that is, intensifying attention upon actually or potentially profitable situations and resolutely withdrawing from the hopelessly unprofitable.

Among these steps, that of providing a fleet of freight cars adequate to the traffic is undoubtedly the most urgent. At the present time, there is probably more traffic being diverted from the rails because of lack of cars to move it, than is being lost for any other reason.

Why Cost Data Are Needed

On the question of getting complete information on total transportation volume (by each form of transportation), and data on comparative costs of the rival services, there is lack of uniform understanding. Some railroad people seem to believe that intensive studies of the transportation market—and comparative performance of the rival methods of transportation—are advocated exclusively for the purpose of making competitive reductions in railroad rates. This is not necessarily so. There is strong reason to believe that the railroads have a lot of rates which are below out-of-pocket costs. Comprehensive cost studies would put a healthy spotlight on these unsavory situations.

The study of comparative transportation volume and costs would also focus attention on the "paper rates" which do not move any traffic. If these "paper rates" could be profitably reduced to the point where they would attract traffic back to the rails, the result would be to increase average ton-mile earnings—not reduce them.

It is unlikely that intensive analysis of the transportation market, and of comparative costs of the several types of transportation, would result in reducing average ton-mile earnings. Instead, the effect should be to increase them.

Such market information is indispensable to effective action—whether freight rate adjustments are made (a) "across-the-board" or (b) commodity-by-commodity. Those who favor the "across-the-board" practice do so in the full understanding that sweeping increases must be followed by a great many specific decreases. And dependable knowledge of just where and how much these specific decreases should be is, now, far from complete.

There is, then, a great deal that the railroads themselves can do to assure the bright future that economic forecasters predict for them—and probably, to make that future a great deal more prosperous than the most optimistic economists would as yet dare to prognosticate.



AUTO CARRIER handles four new-model cars.



SPECIAL chassis is used in pick-up and delivery service.

New Plan Provides 'Piggybacking'

As piggybacking spread across the map in the past two years, some roads held back. A few waited in order to study ways to provide similar service at what they felt would be less cost.

Now the Rock Island has taken the wraps off its "Convert-A-Frate"—an approach the road calls "the answer to piggy-back."

The system revolves around the 38-ft 4-wheel flat car, the "Adapto," introduced recently. Demountable cargo units like those illustrated will provide unrestricted freight service at truck competitive rates.

The next few months will show how well the new system works.

Convert-A-Frate service—described as "a completely new concept of railroad freight transportation"—has been introduced by the Rock Island.

The new service calls for a line-up of at least eight different types of lightweight demountable car bodies. Backbone of the operation is the new-type short flat car, the "Adapto," developed earlier this year by ACF Industries (Railway Age, January 16, p. 8). The car is a 38-ft unit and features roller bearing, two-wheel trucks.

This Rock Island operation is not

different, in one respect at least, from container plans tried on other roads. Cargo units are moved by rail between terminals, and flat-bed trailers provide pick-up and delivery service.

Some special advantages are claimed for Convert-A-Frate, however. For one thing, the initial cost of the Adapto car with demountable cargo units is low—substantially less than a conventional flat car and highway trailers, for example. The car also weighs less, around 27,000 lb. The Rock Island believes it will get far more utilization out of the Adapto than from a regular flat.

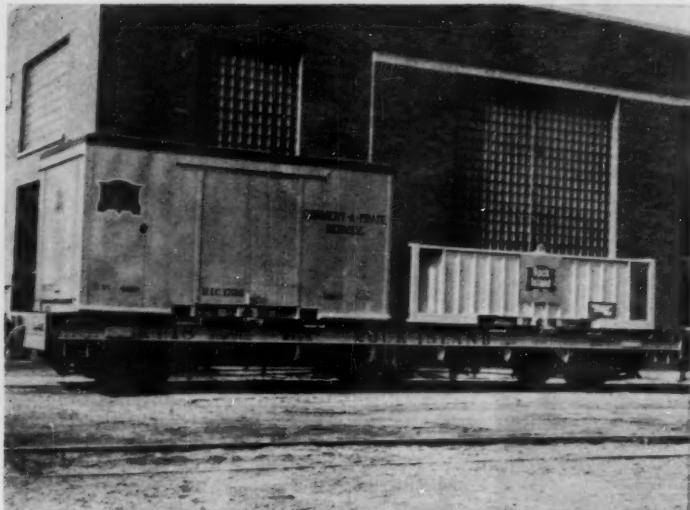
So the railroad's move into this new service was dictated in part by the search for lower costs. Here are other advantages cited by the road:

Versatility—There will be no need for the road to provide, or shippers to require, specialized freight cars. The basic flat car unit carrying different types of demountable bodies can "tailor" the car to suit any particular type of shipment within a matter of minutes.

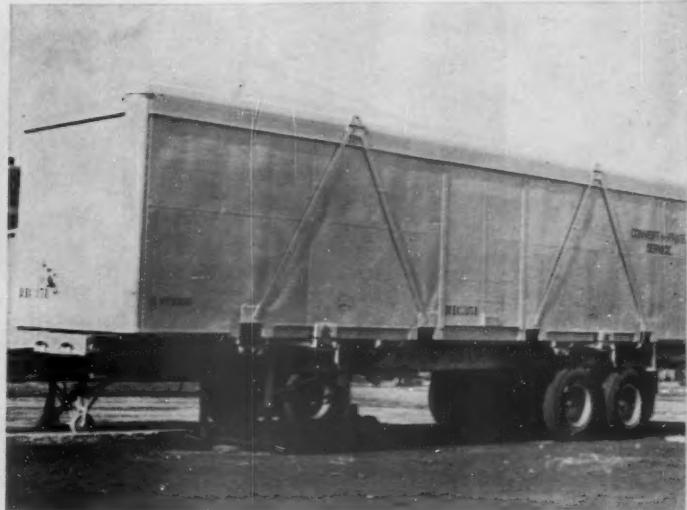
Specialized shipping units can be developed for commodities of almost any size or description. As one Rock Island officer said, "It's a case of building the kind of car the customer wants." Already units have been planned or built along most standard freight car lines—box, covered hopper, gondola, hopper, tank, refrigerator and automobile transport.

Still other units will be added later. The road points out, for example, that demountable units can be used to transport flour from mills directly to bakeries, thereby reducing loss and trimming handling costs for both the shipper and receiver.

There's evidence of built-in versatility in some of the units, too, as in the case of the auto transporter shown above. These open-end steel frame units won't have to be changed from year to year as auto models change, thus saving the rebuilding



DIFFERENT UNITS point up basic versatility of the system.



BIG DRY-CARGO unit is equipped for handling by crane.

without the Wheels

jobs required in standard auto cars.

Flexibility—The new service will enable the Rock Island to serve an industry regardless of its location, including off-line plants.

In this connection there is an important corollary benefit. For some plants at least, the necessity of constructing expensive additional branch or industry track will be eliminated.

Simplicity—Ramps or tie-down devices required in conventional piggyback service are eliminated. The cargo units are locked in position on the flat car on an automatic latching device developed by Clark Equipment Company. The special flat-bed trailers also are equipped with these latches.

Operating Economy—Rock Island officers point to the possibility of real cost savings in actually producing this new kind of service. These savings will occur, they say, as volume builds up to permit the operation of regularly dispatched trains made up entirely of Convert-A-Frate cars. Then cargo units will be taken on or off the trains at regularly spaced traffic concentration points.

These concentration points will be served by the pick-up and delivery trucks. To keep the railroad "fluid," the concentration points can be changed to meet shifts in demand.

In addition, the road may be able to eliminate some switching and car spotting as shippers turn to Convert-A-Frate service.

Competition—The Rock Island will match truck rates and minimum weights (15,000, 20,000, and 30,000 lb). The road's tariff covering the new service follows the standard piggyback pattern in this respect. For the time being, as the new service gets under way, no interline operation is contemplated with the demountable cargo units.

One Drawback

In spite of its several strong points, the new service is not entirely problem-free. Still under study is the matter of transferring the cargo units between flat car and highway truck.

A simple and inexpensive way to do this is probably the key to success in the whole undertaking. So far, the road is using a giant fork lift truck but these cost, as a rule of thumb, almost \$1 a pound in lift capacity. The Link-Belt Company is understood to be working with the road on this problem, and at least

two other companies have recently become interested in trying to develop a low-cost roll-on, roll-off device.

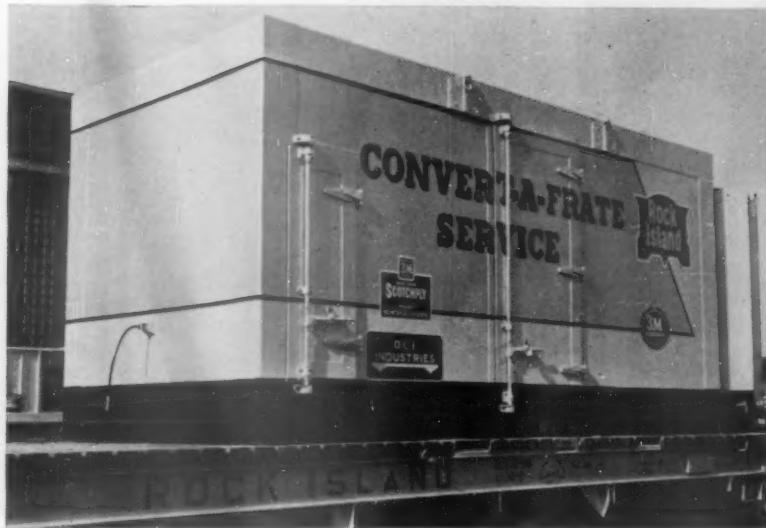
The demountable bodies used by the Rock Island are engineered around the 38-ft flat car. Dimensions are cubical: 8 by 8 by 8, 8 by 8 by 17, or 8 by 8 by 35.

Dry cargo boxes, both the 17-ft and 35-ft units, have roll-up garage-type doors in the side and end. The smaller box has 900 cu ft capacity, weighs 4,300 lb empty, and is rated at 35,000 lb gross. The 35-ft unit is double this in size and capacity. Both boxes are equipped for handling by fork lift or crane.

The road is experimenting with a new inflatable dunnage to cushion load shift inside the boxes. First tests with the units are being conducted in the handling of foodstuffs.

When the first two Adapto cars were delivered to the road last summer, they were outfitted with gondola-type boxes from which the sides and one end can be removed. Since then the road has run several tests with steel shippers, stripping down the boxes into flat-bed pallets.

Demountable cargo units combine proven ideas and a fresh approach



CONTROLLED COLD is supplied by Hunter dry ice system. Later units will test mechanical refrigeration.

SURPRISE ENTRY is plastic refrigerator unit, (left) which has been tested successfully.

... Reefer Unit Is Light and Plastic

To build the Convert-A-Frate refrigerated cargo unit, Rock Island researchers teamed up with engineers of Minnesota Mining & Manufacturing Co. 3M was looking for an opportunity to demonstrate the use of its reinforced plastic material for heavy-duty railroad equipment.

The problem was to build a low-cost unit, light in weight yet capable of meeting railroad requirements of vibration and shock.

Weighing these needs, the research engineers borrowed ideas from the aircraft and automotive industries. They

turned to reinforced plastic panels to reduce weight, and to modern adhesives for bonding the joints.

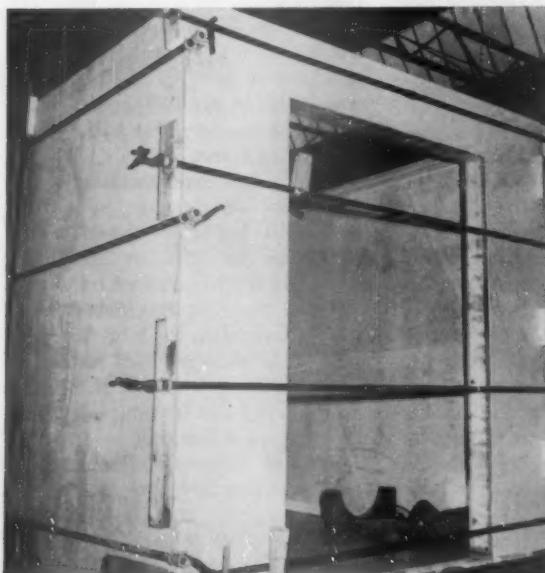
The result is the 6,000-lb box shown here. The unit measures 17 by 8 by 8. Sides, ceiling and floor are "sandwich-type" construction. Except in the floor these panels consist of 1/8-in. reinforced plastic skins (Scotchply) over a 5 3/4-in. flat-grain balsa core. The floor has an upper facing of 1/4-in. Scotchply and the balsa core is 2 3/4-in.

This insulated cargo unit is not only lighter in weight but, its designers

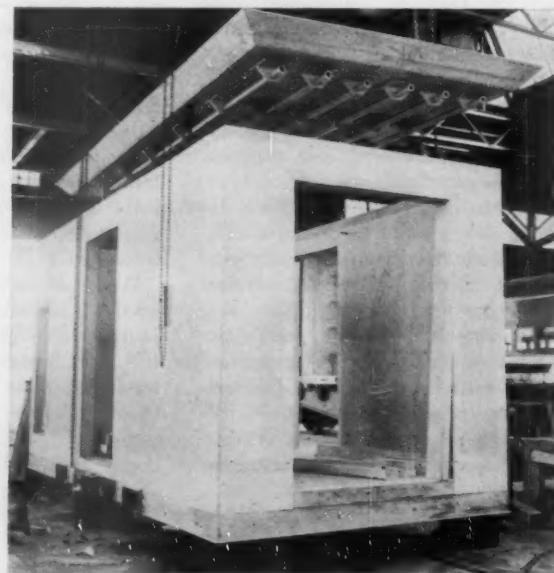
contend, thermally more efficient. Bonding the joints with the epoxy-base adhesive eliminated conventional metal fastenings, freeing the insulation from any short-circuiting. The smooth interior also speeds cleaning and improves sanitation. That's important, since the box will carry fresh meat.

This first Rock Island reefer box is equipped with a thermostat-controlled dry ice cooling system, but the road expects to outfit future models with mechanical cooling units. A spokesman pointed out that a diesel generator mounted on one of the Adapto cars could supply sufficient power through a train line for a number of the boxes.

Swift & Co. is testing the refrigerator unit in Chicago-Des Moines service.



SPECIAL CLAMPS hold refrigerated cargo unit during adhesive bonding.



TOP IS LOWERED as reefer unit takes shape in Rock Island shops. Pipes in ceiling are racks for hanging meat.

Agreed Charges Work in Canada

In most respects Canadian railroads and Canadian businesses are operated just about like their U.S. counterparts. One significant difference is in Canada's growing use of agreed charge rate making. What's behind this development? Railway Age here presents in question and answer form the results of interviews with Canadian railroad men and industrial traffic managers in which they tell how the agreed charge works and why they like it.

Q. . . . What is an "agreed charge"?

A. . . . A simple, easily understood, *public* contract between one or more railroads and one or more shippers or associations of shippers. It covers the movement of a specified commodity or commodities between specified stations at specified rates, and under specified conditions. Most such charges apply to carload shipments only; the applicable carload minimum weight or weights are stated in the contract.

Q. . . . What are the underlying requirements of an agreed charge contract?

A. . . . Basically, four:

(1) It must be available on equal terms to any and all shippers of the covered commodities between the specified points regardless of their individual traffic volume;

(2) It must be publicly published;

(3) It must be mutually satisfactory to all parties concerned; and

(4) Rates stated in it must be compensatory to the carrier, i.e., they must more than cover costs incurred by the carrier in performing the transportation service in question.

Generally, also, an agreed charge will be made only to cover a situation which cannot be readily met by publication of a normal tariff rate, but this is not an absolute requirement.

Originally, too, agreed charges could be made only for the purpose of meeting competition, but this requirement was eliminated by the Canadian Parliament in 1955.

Q. . . . How are agreed charge rates stated?

A. . . . Each contract specifies the applicable agreed charge rate in cents per ton or cents per 100 lb to each destination involved. In many contracts, different charges are specified for varying carload minimum weights, or for use of different routes, particularly where part of the movement may be made by water.

Q. . . . Does an agreed charge cover anything but rates?

A. . . . No. The standard contract specifically states that it "is intended to deal with traffic only in respect of rates for general transportation services; other terms and conditions which would otherwise be applicable shall continue to apply as if the traffic were carried under the regular tariffs of the railway, and the Canadian Freight Classification." The contract also states that the agreed charge "does not include special services at origin, destination or in transit for which special tariffs of tolls are published under the Railway Act."

Q. . . . How do agreed charge rates compare with normal commodity rates?

A. . . . Generally, they are lower. Ordinarily, an agreed charge will not be negotiated if the same objective can be attained by publication of a regular commodity rate. Since agreed charges are arrived at by negotiation, and for the purpose of meeting competition, the percentage of difference between them and a regular commodity rate on the same commodity between the same stations varies.

Q. . . . Where an agreed charge has been negotiated, what proportion of the traffic is subject to the charge?

A. . . . The proportion varies. About two-thirds of the agreed charges now in force apply to "all" or "100%" of the affected traffic. The others cover varying proportions ranging from 55 per cent to 95 per cent, with 75 per cent and 85 per cent as the most common figures.

Q. . . . How are agreed charges affected by general or blanket rate increases?

A. . . . An agreed charge is a contract between carriers and shippers; in most cases, therefore, the specified rate can be changed only by renegotiation of the contract. A few agreed charges, however, contain "escalator" clauses.

Q. . . . How do agreed charges affect a shipper's freedom to route his own traffic?

A. . . . Agreed charges impose no handicap on choice of routes. Many of the contracts specify from two to a dozen alternate all-rail or rail-water routes over which the agreed charge applies, and the shipper may make his own choice.

Q. . . . How are agreed charge contracts negotiated?

A. . . . Just as the question implies —by direct, "around the table" discussions in which all interested parties have an opportunity to participate. The negotiating agency is the Canadian Freight Association, which has headquarters in Montreal, and represents all Cana-

dian railroads in the making of agreed charges.

Q. . . . What is the life of an agreed charge contract?

A. . . . The original contract is normally written for a period of one year from its effective date, and automatically continues in effect indefinitely thereafter unless and until terminated by either party by three months' written notice to the other. The notice period may, however, be included within the original year's life of the contract. Hence, the minimum life of a contract is one year; there is no set maximum life.

Q. . . . How can a new shipper, or one who was not a party to an original contract, obtain the benefits of an agreed charge applicable to his type of traffic?

A. . . . Any shipper whose traffic is of the type (and between the same general points) covered by a previously negotiated agreed charge may become a party to such charge by filing with the Canadian Freight Association a "Notice of Intent." This notice is a simple, one-page mimeographed form, which may, if necessary, be made effective within 24 hours. His participation in the charge is then published in a printed supplement to the original charge.

Q. . . . Are there any penalties for violation of an agreed charge contract?

A. . . . Yes. The standard contract includes this clause:

"Upon default on the part of the shipper, the railway shall have the right to recover from the shipper for all merchandise shipped hereunder the difference between the agreed charge and charges based on the regular tariffs in effect at the time of shipment of such merchandise, and in addition thereto shall be entitled to liquidated damages at the rate of ten per cent (10%) of the agreed charge on all merchandise shipped otherwise than in accordance with the provisions hereof."

The contract also provides that "the shipper shall permit the railway, at all reasonable times, to inspect all shipping books, shipping records and invoice records, whatsoever, for the purpose of verify-

ing the carriage of the traffic in accordance with the provisions hereof."

Q. . . . How many agreed charge contracts are now in effect?

A. . . . As of August 15, 1956, the number of agreed charge contracts in effect in Canada totaled 144.

Q. . . . What volume of Canadian railway freight traffic moves on agreed charges?

A. . . . Currently, about 6% of total freight ton-miles, accounting for approximately 12% of total freight revenue.

Q. . . . What railroads participate in agreed charges?

A. . . . Virtually every important freight carrying railroad in Canada. Because of their national coverage, the Canadian National and the Canadian Pacific are parties to nearly all existing agreed charges contracts.

Q. . . . Do U.S. railroads operating in Canada participate in agreed charges?

A. . . . Yes. The Chesapeake & Ohio, the New York Central and the Wabash are all parties to agreed charge contracts on their Canadian lines. A U. S. railroad operating in Canada cannot initiate an agreed charge (except between Canadian points which it

CTC (AC) No. 118, Page 1

AGREEMENT FOR AN AGREED CHARGE

A. PARTIES.

The undermentioned Carriers, having their respective head offices at the cities hereunder specified, herein-after called the "Carrier":

| | |
|--|-----------------|
| British Columbia Electric Railway Company Limited..... | Vancouver, B.C. |
| Canada Steamship Lines, Limited..... | Montreal, Que. |
| Canadian National Railway Company..... | Montreal, Que. |
| Canadian Pacific Railway Company..... | Montreal, Que. |
| The Esquimalt and Nanaimo Railway Company..... | Montreal, Que. |
| Northern Navigation Company Limited..... | Montreal, Que. |
| Ontario Northland Railway..... | North Bay, Ont. |
| Vancouver and Lulu Island Railway Company..... (Canadian Pacific Railway Company, Lessee) | Montreal, Que. |

— and —

Canadian Pittsburgh Industries Limited, a body corporate with head office at Toronto, Ont., herein-after called the "Shipper".

B. DESCRIPTION OF TRAFFIC.

Glass, Window, Common, carloads, handled by, for, or in connection with the business of the Shipper, to the extent of 90% of the volume forwarded by the Shipper from Montreal, Que. to the stations and/or places specified in Paragraph "C(2)" and to destinations in respect of which combination rates are applied under Condition No. 6 hereof, herein-after called "the said traffic".

C. (1) STATION AND/OR PLACE FROM WHICH APPLICABLE.

Montreal.....(Note) Que.

Note: Charge from Montreal, Que., will also apply from other points shown in Rule 15, Canadian Freight Association Tariff No. 46, Agent R. K. Watson's CTC No. 116, supplements thereto or re-issues thereof.

(2) STATIONS AND/OR PLACES TO WHICH APPLICABLE.

| | |
|--------------------------|--------------------|
| Marpole.....B.C. | Vancouver.....B.C. |
| New Westminster.....B.C. | Victoria.....B.C. |

Also stations to which combination rates are applied under the provisions of Condition No. 6 hereof.

D. AGREED CHARGE, applicable via routes specified in Paragraph "E".

| Carload Minimum Weight | All Rail | Rail, Water and Rail | Water and Rail |
|------------------------|--------------------|----------------------|----------------|
| | Cents per 100 lbs. | | |
| 40,000 lbs..... | 256 | 232 | 249 |
| 60,000 lbs..... | 200 | 197 | 194 |

To stations subject to the provisions of Condition No. 6 hereof.

Combination rates as specified in Condition No. 6.

THE ESSENTIAL SIMPLICITY OF AGREED CHARGES is well illustrated by this typical contract, which is here

reproduced in full, except for the cover page. This particular contract shows that agreed charges give ship-

serves exclusively) but it may participate to or from competitive points.

Q. . . . Do any truck lines participate in agreed charges?

A. . . . Any contract carrier trucker is already, in effect, a participant in agreed charges. There is no essential difference — except in terminology — between contract carriage by truck and agreed charge transportation by rail. Economically, there would appear to be no reason why the principle of agreed charge rate-making should not apply to any form of transportation.

Legally, since Canada has ab-

solutely no national regulation of truck rates or rate-making practices, any truck operator desiring to make an agreed charge, or its equivalent, presumably could do so.

Q. . . . Is use of agreed charges limited to products of industry?

A. . . . No. Agreed charges have been negotiated with a number of agricultural shippers for a number of agricultural products.

Q. . . . What type of shippers use agreed charges?

A. . . . All types. A random selection from the list of larger users shows such firms as Ford Motor

Company of Canada; General Motors of Canada; Algoma Steel Corporation; Dominion Bridge Company; Imperial Oil, Ltd.; Sun Oil Company; British-America Paint Company; Canadian Salt Company; Dow Chemical of Canada; Masonite Company of Canada; Colgate-Palmolive, Ltd.; Swift Canadian Company; Johnson & Johnson, Ltd.; H. J. Heinz of Canada; Edmonton Produce Company; Saskatchewan Cooperative Creamery Association, Ltd., and many other in the same and other types of business.

The list is by no means confined to large concerns. Some 85 food packing and canning concerns participate, for example, in Agreed Charge No. 62 (Canned Goods or Preserves in Carloads from stations in New Brunswick, Nova Scotia, Quebec and Ontario, and St. John's, Nfld., to points in Alberta and British Columbia).

E. ROUTING.

VIA ALL RAIL AND RAIL, WATER AND RAIL

Via Routes specified in Canadian Freight Association Tariff No. 46, Agent R. K. Watson's CTC No. 1165 via the lines of the carriers parties hereto, except will not apply via routes published therein through North Bay, Ont., thence Canadian Pacific Railway.

VIA WATER AND RAIL

Via Canada Steamship Lines, Limited to Fort William or Port Arthur, Ont., thence beyond as provided herein for Rail, Water and Rail movement.

CONDITIONS ATTACHING TO THE AGREED CHARGE.

1. The Shipper agrees to deliver to the Carrier for carriage from Montreal, Que., to the stations and/or places specified in Paragraph "C(2)" the said traffic however directed or consigned; and not to ship or permit or cause to be carried any part of the said traffic by any other means of transportation whatsoever.
2. The Agreed Charge does not include special services at origin, destination or in transit for which special tariffs of tolls are published under the Railway Act or the Transport Act.
3. This agreement is intended to deal with traffic only in respect of rates for general transportation services; other terms and conditions which would otherwise be applicable shall continue to apply as if the traffic were carried under the regular tariffs of the Carrier, and the Canadian Freight Classification.
4. Upon default on the part of the Shipper, the Carrier shall have the right to recover from the Shipper for all merchandise shipped hereunder the difference between the Agreed Charge and charges based on the regular tariff in effect at the time of shipment of such merchandise, and in addition thereto shall be entitled to liquidated damages at the rate of ten percent (10%) of the Agreed Charge on all merchandise shipped otherwise than in accordance with the provisions hereof.
5. The Shipper shall permit the Carrier, at all reasonable times, to inspect all shipping books, shipping records and invoice records, whatsoever, for the purpose of verifying the carriage of the traffic in accordance with the provisions hereof.
6. Where the Agreed Charge provided to destinations specified herein used in conjunction with applicable rates therefrom to destinations not named in Paragraph "C(2)" make a lower charge than applicable under existing tariffs, such combination will apply. In applying the provisions hereof, the railway shall not be required to haul the shipment into and out of the point over which the combination is constructed.
7. This Agreement shall remain in effect for a period of one year, and thereafter until terminated by ninety (90) days' written notice given pursuant to the Transport Act.

SIGNED for and on behalf of the Carrier:

BRITISH COLUMBIA ELECTRIC RAILWAY COMPANY LIMITED
CANADA STEAMSHIP LINES, LIMITED
CANADIAN NATIONAL RAILWAY COMPANY
CANADIAN PACIFIC RAILWAY COMPANY
THE ESQUIMALT AND NANAIMO RAILWAY COMPANY
NORTHERN NAVIGATION COMPANY LIMITED
ONTARIO NORTHLAND RAILWAY
VANCOUVER AND LULU ISLAND RAILWAY COMPANY
(Canadian Pacific Railway Company, Lessee)

W. P. Coughlin, Asst. Chairman, Canadian Freight Association, Montreal, Que.

SIGNED for and on behalf of the Shipper:

CANADIAN PITTSBURGH INDUSTRIES LIMITED

F. C. Wallace, President, Toronto, Ont.

John De Bruyn Kops, General Sales Manager, Toronto, Ont.

P. L. Tod, Secretary, Toronto, Ont.

Agreement made the first
day of November, 1955.

pers a choice of routes; that they may provide for use of rail-water routes, where available, at rates differentially

lower than for all-rail routes; and that different rates may be provided for different carload weights.

Q. . . . What commodities are handled under agreed charges?

A. . . . Just about every commodity which is moved in substantial volume. The list includes, but is not limited to, such diverse articles as petroleum products of all types; chemicals; butter, eggs, poultry and potatoes; paint and varnish; oilcloth and linoleum; biscuits, candy and confectionery; refined sugar; disinfectants; soaps and cleaning compounds; canned foods; automobiles and auto parts; window glass; salt; hardware; flooring; and different kinds of coal and steel products.

Q. . . . What is the history of agreed charges in Canada?

A. . . . The idea of agreed charges originated in Great Britain in 1933. Such charges were first authorized in Canada by the Transport Act of 1938, and some of those still in effect date back to 1940. With the postwar growth of competitive forms of transportation, the railways asked that they be given greater freedom to make such charges. The subject was thoroughly investigated during 1954 and early 1955 by W. F. A. Turgeon, former justice of the Supreme Court of the Province of Saskatchewan, who was appointed a "Royal Commission" for the specific purpose of studying the

problem. After holding hearings in six cities, and receiving voluminous testimony from nearly 100 witnesses representing railways, truckers, shippers, shipper associations, organized labor, provincial and city governments, etc., he recommended that the 1938 law be materially liberalized—largely, but not entirely, along lines advocated by the railways. In July 1955, Parliament adopted his recommendations almost exactly as submitted.

Q. . . . What regulation is applicable to agreed charges?

A. . . . All agreed charges must be filed with the Canadian Board of Transport Commissioners within seven days after they are made, and cannot become effective until 20 days after being filed. Additionally, any shipper who considers that his business "is or will be unjustly discriminated against" by such a charge may apply to the board to fix a rate for the movement of his freight (in cases where such freight is identical or similar to, and carried under substantially similar circumstances and conditions as, the freight to which the agreed charge applies). Finally, after an agreed charge has been in effect for three months, any rail or water carrier, or any shipper, or any association of either, may complain to the Minister of Transport that the charge is "unjustly discriminatory." If he, in turn, is satisfied that "public interest" requires an investigation of the charge, he may refer it to the Transport Board. The board may then vary or cancel the charge, or make any other "proper" order if, after a hearing, it concludes that the charge is, in fact, "undesirable in the public interest" or "unjustly discriminatory" against any complainant or any other form of transportation.

Q. . . . Would agreed charges be applicable in the United States?

A. . . . Legally, they probably could not be used in this country at the present time. Economically, there seems to be no sound reason why the law should not be changed to permit their use. Their application would perhaps involve more problems than in Canada, because of the larger number of railroads,

routes, and points of origin and destination which would have to be considered. Undoubtedly, however, there are many specific situations in this country where such problems could be easily solved.

Q. . . . Would agreed charges, if allowed in the U.S., be a satisfactory substitute either for present rate-making practices or for the more liberal practices recommended by the Weeks Committee report?

A. . . . No. Agreed charges, being applicable to specific situations only, are a supplement to, and not a complete substitute for, some system of general rate-making procedure.

Q. . . . What advantages does an agreed charge give a shipper?

A. . . . Principally, the opportunity to ship a substantial (or major) proportion of his output at a freight rate which is, usually, materially lower than he would otherwise be able to obtain.

Q. . . . What obligations does an agreed charge impose on a shipper?

A. . . . Only one—to ship by rail a fixed percentage (named in the contract) of his total movement of the specified commodities between the specified stations. Use of the percentage basis, and the complete absence of any absolute volume requirement, makes agreed charges equally applicable to all shippers, large and small; and also allows them to compensate for seasonal or cyclical fluctuations in business.

Q. . . . What advantages does an agreed charge give to the carriers?

A. . . . Canadian railway traffic officers say their railroads are currently handling more freight than they would be without agreed charges. This is partly because such charges have made the railways better able to meet the competition of other modes of transportation within Canada; and partly because they have kept more business in Canada. Additionally, agreed charges enable the carriers to count with reasonable assurance on handling a relatively stable and predictable volume of certain commodities between certain points.

Q. . . . What obligations does an

agreed charge impose on a carrier?

A. . . . Two: (1) to move at least a fixed percentage of a stated commodity between specified stations at agreed rates which are generally lower than regular tariff rates on the same commodity between the same points, and usually lower than the carrier could justifiably publish without assurance of handling a stated proportion of the total available business.

(2) To keep agreed charge rates at compensatory levels, i.e., above the out-of-pocket cost of moving the traffic involved.

Q. . . . How have agreed charges affected highway trucking in Canada?

A. . . . Agreed charges have regained (or kept) for the railroads a substantial volume of freight which had been moving (or, in the absence of agreed charges, would move) by highway. As a result, truck operators almost unanimously oppose them—with varying degrees of virulence. In reviewing the subject of agreed charges in its March 1956 issue, a Canadian trucking magazine—The Motor Carrier, published at Vancouver—calls them "the most potent railway weapon against truck lines."

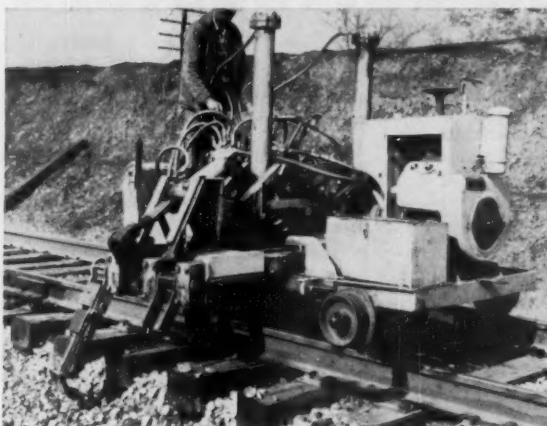
In a brief filed with the provincial government of Ontario on May 16 of this year, however, the Ontario division of the Canadian Industrial Traffic League points out that the number of trucks registered in Ontario increased by 187.3 per cent—from 100,000 to 288,000—between 1945 and 1955; it speaks also of "the unprecedented economic expansion . . . of the trucking industry."

The fact is that agreed charges are not by any means directed solely against trucking. Many of them have been made primarily to meet competition of overseas producers of various commodities, to keep in Canada traffic which would not move at all without agreed charges. Many of them apply to business on which there is no serious rail-truck competition. All of them are limited to specific commodities moving between certain points under carefully stated conditions.

Track Reconditioned Without Raising Grade

Equipment for doing a complete job of reconditioning track without raising the grade was recently demonstrated on the Erie. The operation, which involved about a mile of track in double-track territory near Boone Grove, Ind., included renewing the ties, cleaning the entire ballast section, and surfacing, lining and dressing the track. The track was first raised 2 in. then undercut 4 in., and finally raised 2 in. back to the original elevation. The demonstration was staged by the Kershaw Manufacturing Company.

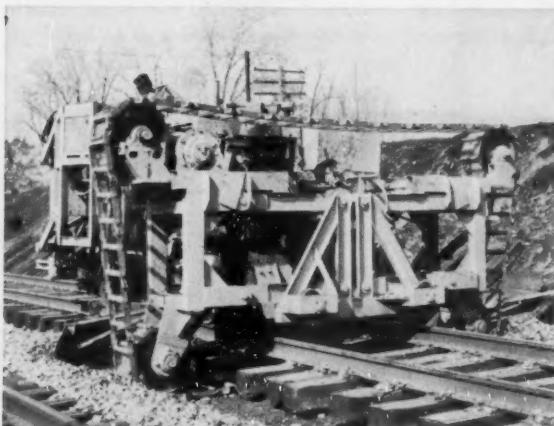
DEMONSTRATION, called the Kershawrama, ran for four days, October 25-28. It was viewed by approximately 150 railroad men.



1. TRACK was raised 2 in. by Kershaw Jack-All in advance of the tie-renewal operation. As the next step the Ballast Regulator plowed ballast away from tie ends ahead of two . . .



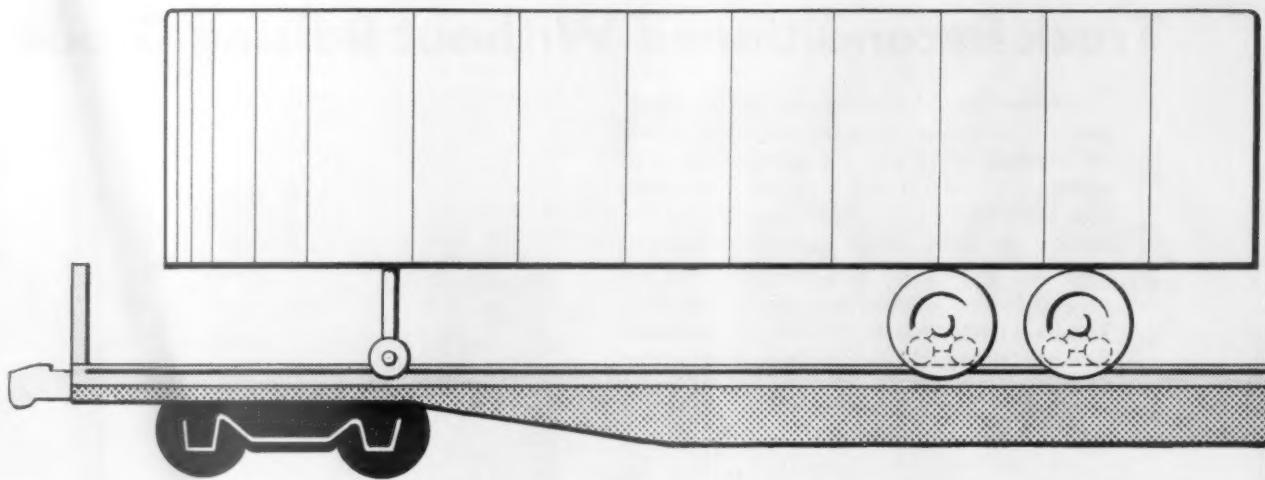
2 . . . TWO-WHEEL CRIBBERS which removed ballast from the tie cribs. Each cribber has two digging wheels, one inside and the other outside the rail. Cribbers worked in tandem to catch both sides of track.



3. UNDERCUTTER and skeletonizer then undercut the track to a depth of 4 in. below ties. Continuous chain, extending under track, removes ballast and piles it in windrow on shoulder.



4. BALLAST was cleaned by Kershaw ballast cleaner. Regulator then distributed cleaned ballast and Jack-All raised track 2 in. for tamping. Track was lined and Regulator and Track Broom finished the job.



'Piggyback' Cars in Production

SUCCESSFUL OPERATION of prototype cars built by the New Haven according to the designs of Piggy-Back, Inc., has led several roads to order such cars, and deliveries from the production line are now being made to the New Haven.

These end-loading floorless flat cars are designed to take the trailer load direct from the vehicles' axles, leaving the tires free.

Among advantages attributed to this design are faster loading and unloading, thereby reducing terminal costs; and high ratio of payload to dead weight.

Piggybacking now has its own specialized railroad car, developed by Piggy-Back, Inc. That builder's design provides guided loading over two center sill I beams which, in turn, contain the tie-down and

shock absorbing elements. (*Railway Age*, March 7, 1955, p. 45).

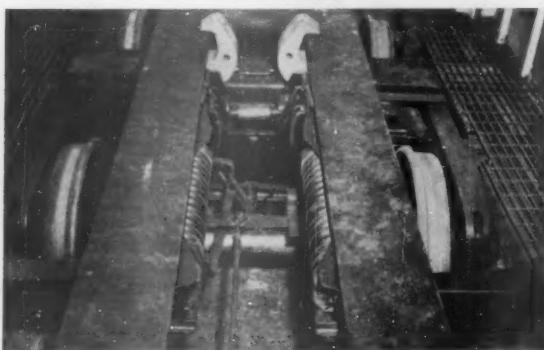
Railroad terminal handling costs are reported to be reduced as much as 50 per cent below the normal for traditional equipment. Loading and

unloading time is more than halved, according to the builder. Planned trailer parking at the origin yard permits preswitching and train blocking, eliminating switching at make-up time.

The lading protection is expected to cut damage claims and to lead to lower packing costs. The car's light-weight construction gives it a load ratio of 2.44 to 1, higher than is usual with conventional freight cars.

Mechanical Features

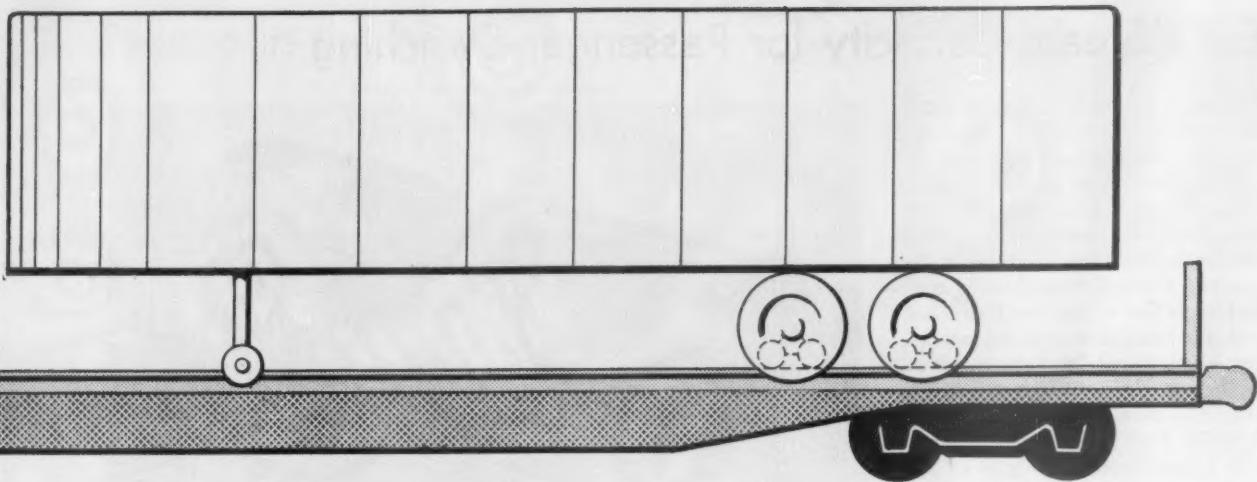
The two center sills form the guide upon which the trailers are loaded, transferring the weight from the trailer's wheels to two small dollies mounted on its axles. The lading is



RAISED into the "up" position, the tie-down clamps have a direct connection with the shock absorbing element, the cylindrical stacks of rubber mats under each sill.



PARALLEL center sills are the backbone of the "guided loading" feature of this car. Gap-bridging rails are lowered to connect the cars during loading.



After Thorough Tests

on the vehicle's springs, removing the load from the tires. As a result they are not scuffed while loading or subjected to pounding in transit. This suspension also prevents Brinelling of trailer axle bearings.

Trailer axle dollies are slotted to receive two clamps per axle mounted between the center sill members. Four turns of a crank from either side of the car raise the clamps to a vertical position engaging these axle dollies. Each clamp is shaft mounted to a shock absorber which is made up of 17 rubber mats, allowing ten inches travel in either direction. The landing gears are free riding and serve only as a support, no dollies being required.

These all-steel cars have AAR ap-

PIGGY-BACK INC., CAR DATA

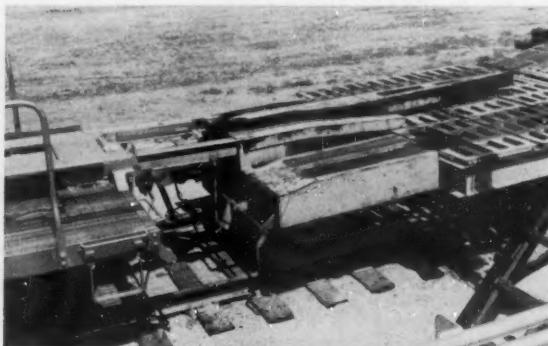
| | |
|--|--------|
| Length over coupler faces, ft-in. | 82-10 |
| Length over sills, ft-in. | 79-6 |
| Truck centers, ft-in. | 65-6 |
| Truck wheel base, ft-in. | 5-6 |
| Width over walkways, ft-in. | 9-5½ |
| Height of center sills above rail, in. | 43½ |
| Height of walkway above rail, in. | 35 |
| Weight, light, lb. | 48,000 |
| Minimum operating curvature, radius, ft. | 210 |

proval for unrestricted interchange operation and the safety appliances have ICC approval. The design and construction follow the basic pattern of the prototype cars which were tested by the Erie, MKT, UP and SP.

The initial New Haven order is intended for service between New York and Providence and between New York and Boston. Facilities will

be installed later at New Haven and Springfield, Mass. Old and new models will be used until delivery is made after which the prototypes will be put in service elsewhere.

In addition to the New Haven's order for 200 cars, orders have been placed by the B&M, KCS and SP, and other orders are being negotiated.



THE DOLLY wheels of the trailer axles ride up on centering device which guides them from ramp (right) onto center sills.

WHAT THE CAR HAD TO PROVIDE

- Rock bottom initial investment.
- Capacity for two trailers on each car.
- Low clearance to take the largest trailers on any major railroad.
- Preselective and rapid loading and unloading.
- Shock absorbing elements to minimize impact.
- Conformity to AAR standards.
- A fast, simple tie-down method to render maximum safety and a minimum maintenance.

Extra Steam Capacity for Passenger Switching

The Santa Fe has bought three Fairbanks-Morse 1,200-hp switchers specially designed to meet the problem of furnishing adequate steam capacity for cooling and heating assembled trains being moved from coach yard to station. These units combine the high train heating and fuel capacities of the road switcher with the lower first cost and operating economies of the yard switcher.

The standard 1,200-hp switcher engine is mounted on the standard 1,500-hp road switcher underframe, with a short hood structure to accommodate the 4,500 lb/hr capacity Vapor Model OK 4750 steam generator. The switcher type friction draft gear and footboards are used, but the pilot is omitted. Modification of the cab structure permits cab entry on both sides as on the road switcher. The weight of each unit is 246,000 lb, all on drivers. Tanks for 1,200 gal of fuel oil and 1,200 gal of water are beneath the underframe.



All rotating electrical equipment is manufactured by Fairbanks-Morse, including an extra 7.5-kw auxiliary generator for the steam generator. General Electrical control and switch gear is provided. The air brake equipment is Westinghouse 6SL.

In terminal service, the switcher type trucks with plain bearings are used. To adapt the locomotive for higher speed road switcher work, the standard roller-bearing equipped swing bolster truck can be applied as a modification.

Railroading

After Hours

First Jumbo Letters

I seem to have been a little previous in suggesting that the Soo Line was probably the first railroad to put the company name or initials on freight cars in big letters. F. F. Lentz, superintendent of the AC&Y at Akron, says that, as far back as 1920, the Chicago, Terre Haute & Southeastern (now part of the Milwaukee) "had their gondolas completely covered with lettering."

H. R. Sampson, traffic vice-president of the C&EI, reports that "we now large letters were used on C&EI box cars as long ago as December 1926." Come to think of it, I recall that big C&EI lettering, quite a while ago. Are there any other likely candidates for originators of the big lettering?

No Low-IQ Employees

There is a big railroad that is doing pretty well—and has reason to believe that at least some of its success is ascribable to the precautions it has taken for the past 25 years to avoid hiring employees of less than average intelligence.

Any number of people may be

by
James G.
Lyne



Editor,
Railway
Age

this least desirable group. Officers close to the situation believe the program has been highly rewarding.

Why Service Seems Slow

About that \$64,000 question I said I couldn't answer—why it should take 6 days to move a car 200 miles—an operating officer close to the top of his department makes a few suggestions, among them:

"Railroads are geared for mass transportation. Where volume is offered between two points, railroads usually give good service. But where the mass movement is turned over to trucks and we're given only an odd car now and then, the small volume often necessitates handling through a couple of intermediate yards. If volume is not enough to operate continuous switching and humping tricks, these yard handlings take time."

That, I submit, is one good answer—and my operating department friend gave me a few more of them. Won't some operating officer please let me have a couple of specific instances of what may look like poor service—but actually isn't, when the reasons are revealed.

divided into groups, in the order of their relative intelligence, as disclosed by tests. The brightest fall into the first 25 per cent. The least bright go into the fourth 25 per cent—and the "average" is made up of those above the low 25 per cent and below the highest quarter.

The goal is to get as many new employees in the top 25 per cent as possible—and to avoid entirely taking on any in the bottom one-fourth. If employees are hired on a "run of mine" basis, some will surely fall in the lowest quarter. And that's just what this particular railroad has been avoiding.

It has hired nobody in the operating department from the lowest quarter for 25 years—and it has been 17 years since new employees in any department have been selected from

People in the News

CURRENT HAPPENINGS AMONG Railway Officers

BALTIMORE & OHIO.—A. W. Colnot, superintendent, Pittsburgh division, Pittsburgh, Pa., appointed assistant to general manager, Central region, Pittsburgh, succeeding T. E. Johnson (Railway Age, Nov. 5, p. 43). C. E. Bertrand, superintendent, Monongah division, Grafton, W. Va., succeeds Mr. Colnot at Pittsburgh. J. R. Frease, assistant superintendent, Buffalo division, Punxsutawney, Pa., promoted to superintendent, Monongah division, succeeding Mr. Bertrand. V. H. Freygang, trainmaster at Punxsutawney, replaces Mr. Frease as assistant superintendent there.

BANGOR & AROOSTOOK.—Richard B. Baldwin, former assistant purchasing agent, appointed to newly created position of coordinator of new methods, Bangor, Me.

CANADIAN PACIFIC.—A. L. Lowe, assistant superintendent, Weyburn, Sask., named superintendent, Brandon division, Brandon, Man., succeeding A. F. Frys, transferred to Medicine Hat, Alta., to replace Kenneth R. Perry (Railway Age, Nov. 12, p. 16).

CHESAPEAKE & OHIO.—W. D. Wood, appointed assistant bridge engineer, Richmond, Va.

J. E. Burns, assistant communications engineer, Saginaw, Mich., named communications engineer, Huntington, W. Va.

DENVER & RIO GRANDE WESTERN.—Elmer Larson, division storekeeper, promoted to general storekeeper, Burnham (Denver), Colo.

ERIE.—Charles R. Martin, freight traffic manager, Cleveland, promoted to assistant vice-president for traffic, Central territory, Cleveland, effective December 1. Wilbur W. Thoms, assistant general freight agent, sales and service, Youngstown, Ohio, appointed assistant to vice-president, Cleveland. Claude F. Lauver, general agent, Columbus, Ohio, named division freight agent, Jamestown, N. Y., succeeding J. Lawrence Chapman, who replaces Mr. Thoms at Youngstown. James A. McCall, commercial agent, Jersey City, N.J., appointed general agent, Cleveland, succeeding Charles A. Parker, transferred to Columbus to replace Mr. Lauver.

Ernest E. Seiso, assistant to president, Cleveland, appointed to newly created position of director of personnel and training, with jurisdiction over all personnel matters other than those relating to collective bargaining agreements.

Thomas J. Sanok, assistant general manager, Eastern district, Jersey City, promoted to assistant to vice-president for operations, Cleveland, effective December 1. James M. Moonshower, superintendent, Buffalo and Rochester divisions, Buffalo, N.Y., promoted to assistant general manager, Western district, Youngstown, Ohio, succeeding Thomas E. McGinnis, transferred to Jersey City to replace Mr. Sanok. James D. McFadden, assistant superintendent, Jersey City, promoted to superintendent at Buffalo, succeeding Mr. Moonshower. James W. Conway, trainmaster, Buffalo, succeeds Mr. McFadden as assistant superintendent at Jersey City. Robert L. Downing, inspector of operation, Youngstown, promoted to trainmaster, New York division, Jersey City, succeeding James W. Connor, who replaces Mr. Conway at Buffalo.

JERSEY CENTRAL.—John Hachtman, commercial agent, named assistant to general freight agent.

Richard A. Eitel appointed general bridge inspector.

MINNEAPOLIS & ST. LOUIS.—James R. Sullivan, chief personnel officer, Minneapolis, elected assistant to president.

MISSOURI-KANSAS-TEXAS.—C. W. Campbell, superintendent of the Northwestern division until its recent consolidation into the new Texas division, retired November 1. Cecil W. Robbins, division engineer, Smithville, Tex., has assumed Mr. Campbell's duties at Wichita Falls, Tex., as assistant superintendent. J. T. Hunter, roadmaster, Smithville, named to succeed Mr. Robbins as assistant division engineer.

A. C. Field appointed district sales manager, Seattle, Wash., succeeding C. E. Turner, deceased.

MISSOURI PACIFIC.—George A. Stover, freight claim agent, St. Louis, retires December 1.

NEWBURGH & SOUTH SHORE.—Howard E. Patton, Jr., appointed supervisor-labor relations, succeeding Albert Reese, retired.

NEW HAVEN.—Roscoe P. Noyes, general superintendent of transportation, New Haven, appointed general manager of the road.

George F. Fitch, assistant manager, passenger train service, Boston, retired October 31. C. G. Walker appointed assistant manager, and E. P. Kelly, assistant to manager, passenger train service, Boston.

NEW YORK CENTRAL.—Master mechanics appointed: V. T. Burns, Electric, Harlem and Putnam divisions, Mott Haven, N.Y. (car); J. F. Cooney, Syracuse-Rochester division, Syracuse, N. Y.; F. L. Hoffman, Electric, Harlem and Putnam division, Harmon, N. Y. (locomotive); R. J. Parsons, New York Terminal district and River division, Weehawken, N.J.; J. E. DeFreest, Mohawk-Hudson division, Albany; W. A. Alfke, St. Lawrence, Adirondack and Ottawa division, Watertown, N.Y.; S. O. Hughes, Boston & Albany division, Boston; L. C. Lytle, Buffalo division, Buffalo; and T. A. Rhoads, Pennsylvania division, Avis, Pa. C. W. Cole appointed assistant master mechanic, Syracuse-Rochester division, Syracuse, and P. R. Oliver named assistant master mechanic (car), Electric, Harlem and Putnam division, Mott Haven.

W. H. Thickett, vice-president and director of traffic, Watson Brothers Transportation Company, Inc., Omaha, Neb., named vice-president, New York Central Transport Company, New York.

NORTH LOUISIANA & GULF.—John F. Davis has assumed the duties of M. F. Mooney, auditor and general freight agent, Hodge, La., retired.

PENNSYLVANIA.—Charles W. Graham, tax representative, promoted to tax agent, Chicago.

SANTA FE.—W. C. Ellison has resumed his duties as master mechanic, Pecos division, Clovis, N.M.



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SOUTHERN.—Frank S. Worthington, general superintendent transportation, Eastern lines, Charlotte, N.C., appointed to newly created position of vice-president at Chattanooga, Tenn. Robert W. Williams, executive general agent, Chattanooga, retired November 1.

SOUTHERN PACIFIC.—J. E. Richardson, assistant passenger agent, Los Angeles, retired.

L. E. Peterson, division engineer, and J. C. E. McClure, assistant division engineer, both at Los Angeles, retired October 31.

WESTERN MARYLAND.—John G. Grimmer appointed manager, tax division, accounting department, Baltimore. Mr. Grimmer was formerly with the Bureau of Internal Revenue, Baltimore office.

OBITUARY

Michael J. Flynn, 84, retired superintendent of bridges and buildings of the Chicago & North Western, died Nov. 12.

Clive T. Jaffray, 91, former president of the Soo Line, died recently at Minneapolis.

Organizations

Buffalo (N.Y.) Traffic Club.—Women of transportation on the Niagara Frontier will be honored at "Ladies Night," which is being cooperatively planned for next January 30 by the club and the Railway Business Women's Association of Buffalo. Principal speaker at the affair, to be held in the ballroom of the Hotel Lafayette, will be Dr. Beatrice Aitchison, director of transportation, Post Office Department, Washington, D.C.

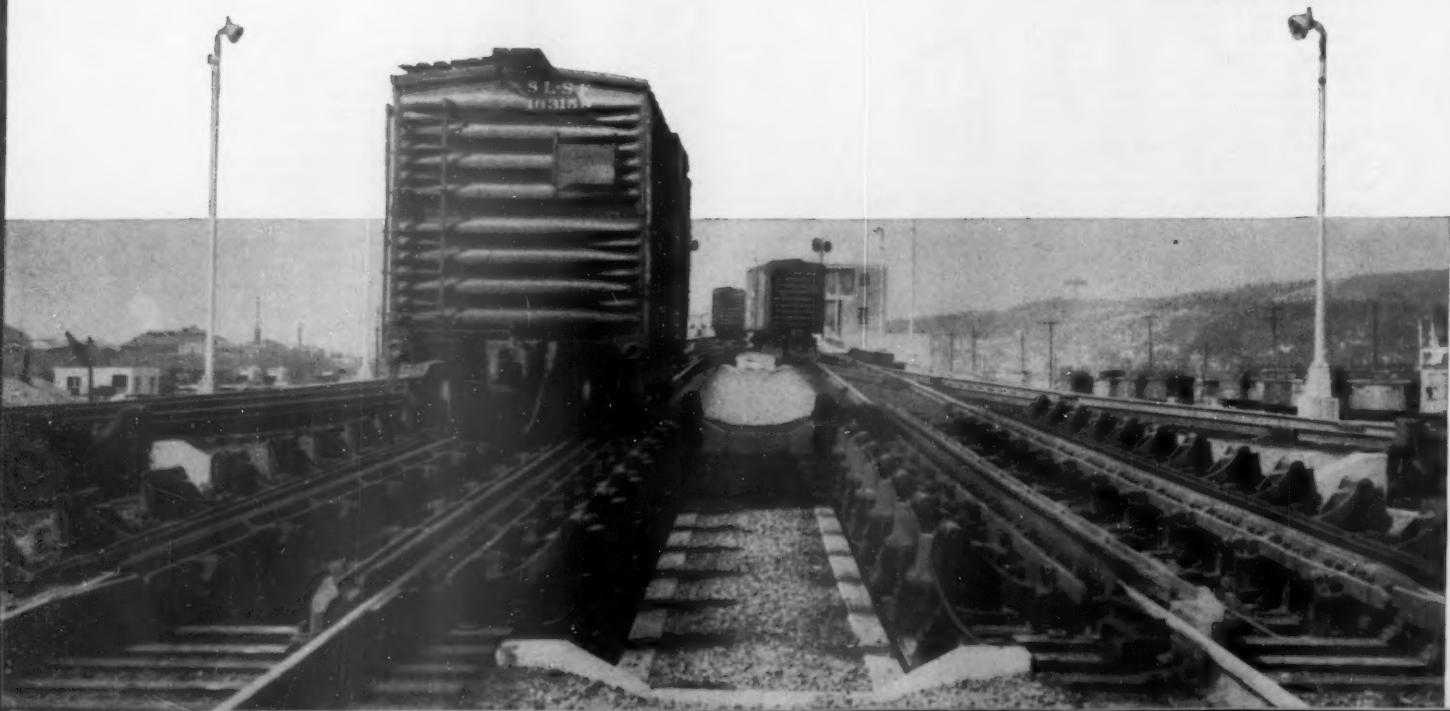
Diesel Engine Manufacturers Association.—Newly elected president is Walter A. Rentschler, vice-president and a director of Baldwin-Lima-Hamilton Corporation, and general manager of its Hamilton Division. Guy J. Coffey, president of Chicago Pneumatic Tool Company, was elected a vice-president.

Traffic Club of Minneapolis.—Will hold its 41st annual dinner in the Hotel Nicollet, Minneapolis, December 6.



PENNSYLVANIA RAILROAD'S new classification yard at Conway, Pa. equipped with UNION Automatic Classification Yard System.

World's largest classification UNION Automatic





CONTROL CONSOLE for eastbound yard. Cars are classified at a rate of about five cars per minute.

yard --- equipped with **Classification Yard System**

THE PENNSYLVANIA RAILROAD's new classification yard at Conway, Pa., near Pittsburgh, will have 110 classification tracks when completed. This is the world's largest.

The eastbound yard of 54 tracks is already in operation, and in one eight-hour test period 1615 cars were classified.

The westbound yard, still under construction, will double the capacity. This yard will be completely automatic in operation.

For each cut of cars, the VELAC automatic control equipment positions switches and determines weight, rollability and track fullness. Then, taking into account the route resistance, an electronic computer calculates proper release speed, and car retarder pressures are regulated automatically so that cars will travel to point of coupling at desired speed. This is the most modern and complete automatic classification yard control system available today.

OUTSTANDING ADVANTAGES

1. SPEEDS CAR CLASSIFICATION
2. PRACTICALLY ELIMINATES DAMAGE to lading and cars—smoother coupling
3. LESS TRIMMING
4. REDUCES OPERATING EXPENSE
5. EASE OF OPERATION—consistently good performance
6. FAST RETARDER ACTION—assured by UNION Electro-Pneumatic Retarders
7. LOW MAINTENANCE COSTS

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Drives on-or-off-highway—One man and a modern Adams grader travels via right-of-way or highway to construction site or to scattered maintenance jobs...without waiting for rail transport...without need for special crew. An Adams grader saves time, cuts your pay-roll and machinery costs.

Speeds construction—The Adams goes to work quickly, helps construct new yards, prepares roadbeds for track, builds access roads. It grades surface smooth, levels fill, slopes banks, cuts ditches, spreads crushed stone, cinders, and gravel. Your Adams grader also scarifies, pushes scrapers, bulldozes, and handles many other dirtmoving jobs at low cost.

Saves on maintenance—This modern grader maintains yards, roads, and right-of-way...makes repairs before major problems develop. An Adams grader cleans drainage ditches, widens shoulders, maintains banks and fills, smooths access roads, removes brush and weeds, and cleans up around stock-piles, bulk-cargo, docks, and yards.

Exclusive: 15 speeds—Only Adams heavy-duty graders have 8 speeds forward (to 26 mph) plus three optional creeper gears, and 4

reverse speeds (to 13 mph). No other make of grader provides the speed choices for work at fastest practical rate, with fast back-up for shuttle grading.

Exclusive: Double-action brakes

—Only about half the usual pedal pressure is needed for quick, sure stops. Service brakes on both transmission and wheels act simultaneously to slow, stop, or hold grader.

Optional equipment—Scarifier rips out asphalt, hard-packed dirt, roots and rocks. Dozer blade pushes debris off right-of-way, backfills around culverts, cleans up spillage in yards. Snow plow and wing clear snow from yards, depot, freight areas and access roads.

Call or write for details on fast, versatile Adams graders.

A size Adams for every need

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| New POWER-Flow 660 | — 190 hp |
| with torque converter | 30,200 lbs. |
| Model 660 | — 150 hp diesel..... 30,050 lbs. |
| Model 550 | — 123 hp diesel..... 26,370 lbs. |
| Model 440 | — 104 hp diesel..... 24,080 lbs. |
| Model 330 | — 80 hp diesel..... 23,020 lbs. |
| Model 220 | — 60 hp diesel..... 15,500 lbs. |

Traveloader—high-speed, heavy-duty, self-propelled, belt-type loader for picking up and loading loose materials into trucks from stockpiles or windrows. Loads rear or side. 55 hp gasoline or 60 hp diesel engine, 16,800 lbs.

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Current Publications

(Continued from page 22)
naval and chemical engineering are not included. This volume is intended to give both general reader and student a knowledge and understanding of engineering history. Nearly 50 pages are devoted to the development of railway equipment, including locomotives, cars and signalling, and urban transportation systems. Many famous railway structures are discussed. One of the authors, Sidney Withington, was for more than thirty years head of the electrical engineering department of the New Haven.

A CASE STUDY OF BALLOTTING REGULATION; THE BOSTON AND MAINE RECAPITALIZES, 1948-1953, by Robert L. Masson. 373 pages. Harvard Business School, Division of Research, Boston 63. \$4.50.

This book deals with procedural problems of balloting on the railroad's stock modification plan submitted under Section 20b, the 1948 amendment to the Interstate Commerce Act. The case at the start was unique only in being the first all-stock plan. It became notable when a broadside of charges set the stage for an overall review of the requirements for voting. In previous cases the balloting had been accepted as incidental and routine. Here the opposition broadened from the plan itself to the procedures for solicitation and voting.

The litigation of over two years invited inquiry into what could be so wrong as to make the mere voting process the main salient of attack. The public records of the dispute formed the basic source of material. First, the statute's requirements were studied. Then the charges of invalid assents were tested against the statute and the Interstate Commerce Commission's rules. The analysis proceeded to a critique of the charges and the ICC's ultimate findings. The conclusions are that the statute needs clarification and certain procedures should be changed.

TRADE PUBLICATIONS

ARMCO FACTS AND FIGURES. 24 pages, illustrations, charts. Armco Steel Corporation, Middletown, O. Free.

This, the third edition of "Armco Facts and Figures," has been prepared to give a statistical story of the company's growth over the past quarter of a century, and to provide the reader with an up-to-date look at Armco as it is today.

G.R.S. CENTRALIZED TRAFFIC CONTROL. 166 pages, diagrams. General Railway Signal Company, Rochester 2, N.Y.

This is Handbook 45 covering the type K2, class M, coded system of centralized traffic control.

CONOCO RAILWAY LUBRICATION GUIDE. 57-pages. Continental Oil Company, Railway

Sales Division, 400 W. Madison st., Chicago
6. Free.

PAMPHLETS

COLORADO'S TON-MILE TRUCK TAX, compiled and edited by Milt Andris, 22 pages. Colorado Good Roads Association, 1640 Court Place, Denver. Free.

Relates the story of a long and bitter fight to enact the gross ton-mile truck tax, which became effective April 1, 1955. Appropriate newspaper comment is reproduced and the booklet also comments on results of the first year of actual experience.

ALLIED'S ELECTRONICS DATA HANDBOOK, edited by Nelson M. Cooke. 64 pages, diagrams, tables. Allied Radio Corporation, 100 N. Western ave., Chicago 80. 35c.

A compilation of formulas and data most commonly used in the field of radio and electronics.

GEARED TO PROGRESS; THE STORY OF THE RAILWAY PROGRESS INSTITUTE. 13 pages. Railway Progress Institute, 38 South Dearborn st., Chicago 3. Free.

Outlines the functions and program of the institute.

AMERICAN RAILWAY SIGNALING PRINCIPLES AND PRACTICES. Chapter II, Symbols, Aspects and Indications. 72 pages, diagrams. Association of American Railroads, Signal Section, 59 E. Van Buren st., Chicago 5. 55c.

The 24 chapters in this series, each issued as a separate pamphlet, are revised from time to time. This is a revision of chapter II.

FILMS

THE RIGHT TO COMPETE. 16-mm., 14-min., sound, color. Association of American Railroads, Transportation Bldg., Washington 6, D.C. Available on loan.

This film, dealing with the report of the Presidential Advisory Committee on Transport Policy and Organization, explains through real-life and animated cartoon sequences the public significance of basic recommendations of the Cabinet Committee report. Presented through the eyes of a typical American family, it traces briefly the growth of free competitive enterprise in America from colonial days to the present, with special emphasis on the part played by transportation.

PERIODICAL ARTICLES

THE CANADIAN PACIFIC: OVERDUE, by Herbert Solow. Fortune, August, 1956, pp 82, et seq. Time Inc., 9 Rockefeller Plaza, New York 20. Single copies, \$1.25.

The Dominion's \$2-billion railroad must spend \$1.5 billion to modernize. If its new president, N. R. Crump, unloads some established tradition, the search for the money may grow easier than it now looks.



"Handyman D" cuts costs on right-of-way maintenance

This versatile off-track D Tournapull handles scattered earthmoving maintenance along your miles of track quickly, and at low cost.

The "D" has a heaped capacity of 7½ yards, speeds to 29.5 mph. This one rig, with its single operator, can clean and cut ditches, slope banks, repair washouts, widen roadbed, grade for sidings, build levees, raise grade, spread ballast, haul snow from yards and sidings. With dozer blade, Tournapull gives you a high-speed "traveling-man dozer" to clear fallen debris off tracks, strengthen levees, push-load scrapers, pile brush, backfill around culverts, stockpile coal and ballast. With snow-plow attachment, it opens tracks for use in yards, cleans sidings, and plows roads for access.

Speedy off-track mobility of the D Tournapull is an important factor in keeping your right-of-way in good condition at low cost. A phone

call starts it to the job — by way of track, right-of-way, or public highway. Tournapull can easily travel 50 miles from your yard . . . complete several scattered small jobs . . . and be back the same day. Often it completes its assignments and is back at the yard, ready for the next job, before a crawler-scraper combination can be loaded on train or truck and sent on its way!

"D" crosses tracks with ease

Big, 5' high, low-pressure tires deflect around rather than grind into obstructions to prevent damage. Tires will not chamfer ties, loosen rails, damage block-signals or switches. Neither are tires damaged by crossing tracks, rocks, curbs. Check into the worthwhile savings possible with speedier, more efficient Tournapull for your earthmoving maintenance. Write us for complete specifications and performance figures. Ask also for owner-verified reports on "D's" rail-line work.

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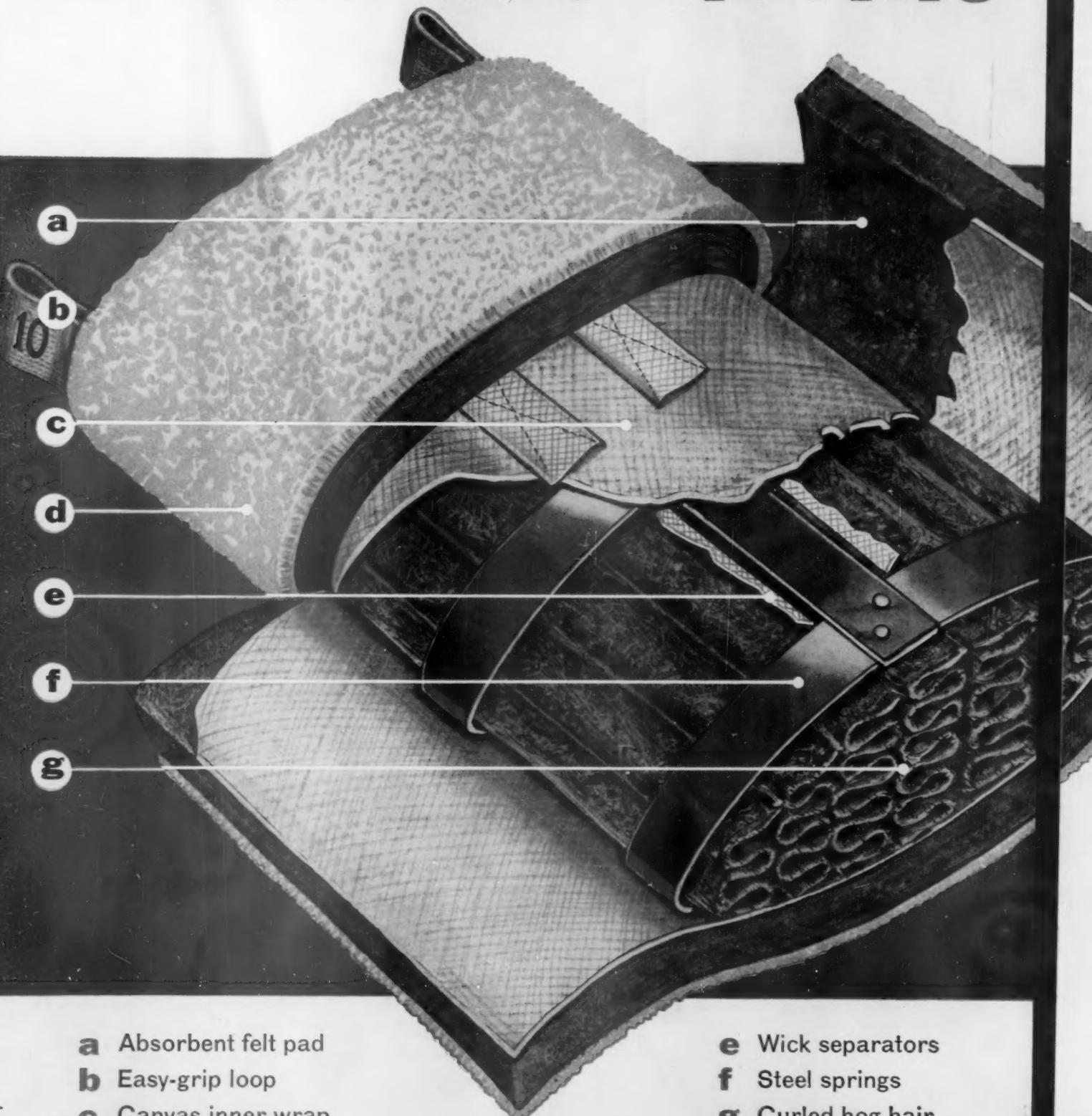
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- b** Easy-grip loop
- c** Canvas inner wrap
- d** Wicking-action cover

- e** Wick separators
- f** Steel springs
- g** Curled hog hair

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Yes . . . in this new Spring-Pak Lubrication Pad, the resilient, curled hog hair acts as a reservoir. . . . The long-lasting cotton pad—the high-quality felt—the wick separators . . . all have remarkable capillary action . . . all feed oil continuously!

The tough, cotton outer jacket has been especially selected for its high wicking action—will not glaze—is lint-free.

Flexible, loop handles make application or removal fast and easy. No special skill is required—there's never a need to "jack" the box.

Note the inner steel construction in the cut-away illustration. Regardless of temperature, these bands prohibit any possibility of the core collapsing. Made of highly resilient, spring steel, they assure constant pressure on the journal at all times.

Use it . . . re-use it. The new Spring-Pak Lubrication Pad can be easily cleaned in hot oil—has exceptional reclamation value.

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Provide a smoother, more comfortable ride for passengers. Locomotives operate with less roll and vertical shock. Designs available to suit a wide variety of truck conditions.



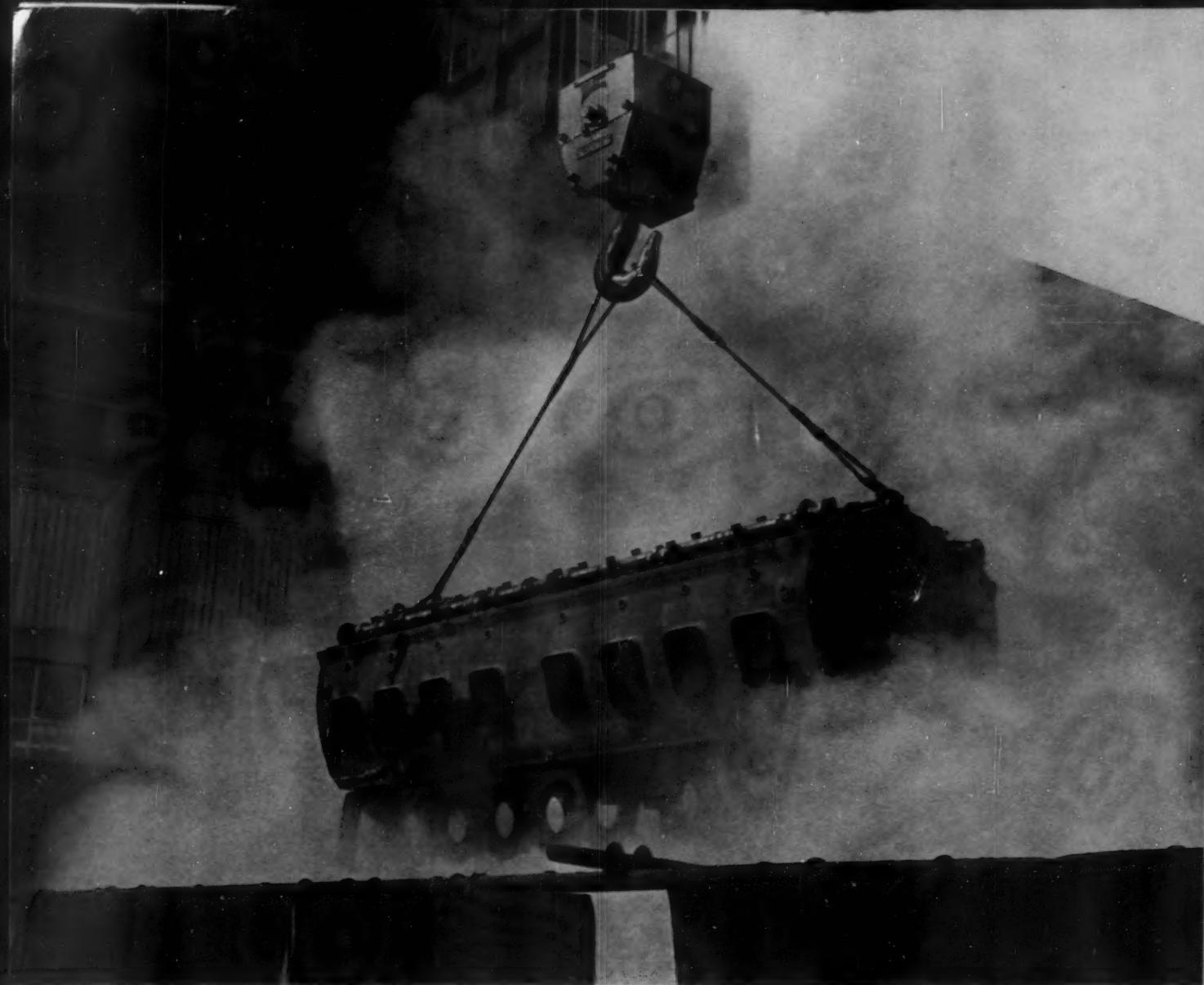
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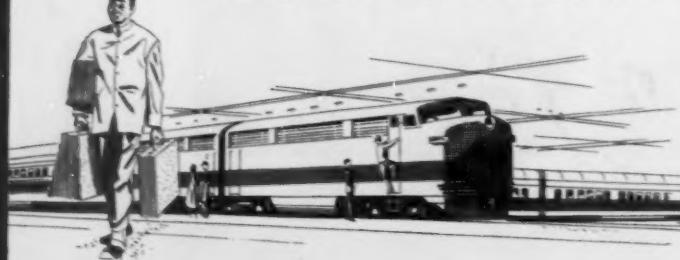
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When the problem is the stripping of heavy deposits from diesel "A" frames and other parts, diesel operators the nation over have, for years, relied on Turco Ferrex B. The standard and accepted hot tank material for the cleaning of steel diesel parts, Ferrex B *quickly* and *thoroughly* removes the most stubborn soils...performs at peak efficiency over a remarkably long tank life...yet is used at concentrations lower than required by most hot tank cleaning compounds (only four to six ounces per gallon)!

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line of Turco compounds engineered specifically for railroad cleaning. Included in this line are acid and alkaline exterior cleaners, hot and cold tank cleaners, emulsion cleaners, electrical equipment cleaners, steam cleaners, rust removers and preventives, paint strippers, phosphate pre-paint treatments, dye penetrant flaw location materials, a full line of cleaning equipment, and many, many specialty products. This complete line, plus on-the-spot nationwide Turco technical service, stands as the main reason why, when it comes to *cleaning*, America's leading railroads turn to Turco...first!



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